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U. S. DEPARTMENT OF LABOR
CHILDREN'S BUREAU

JULIA C. LATHROP, Chief

RURAL CHILDREN

IN SELECTED COUNTIES OF NORTH CAROLINA

BY

FRANCES SAGE BRADLEY, M. D.

AND

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RURAL CHILD WELFARE SERIES No. 2
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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,

Washington, September 25, 1918.

SIR: Herewith I transmit a report entitled "Rural Children in Selected Counties of North Carolina." This study was made at the request of the North Carolina State Board of Health in cooperation with State and local authorities and volunteer organizations. The purpose was to secure information as to the rural child—his well-being, surroundings, needs, and opportunities.

The study was under the direction of Dr. Frances Sage Bradley with the assistance of Miss Margaretta A. Williamson.

JULIA C. LATHROP, *Chief.*

HON. WILLIAM B. WILSON,
Secretary of Labor.

RURAL CHILDREN IN SELECTED COUNTIES OF NORTH CAROLINA.

INTRODUCTION.

This inquiry into the conditions surrounding rural children was undertaken with the purpose of studying at first hand the everyday life of the rural child of the South, at home, at work, at school, and at play—his health, environment, needs, and opportunities. Since three-fifths of the children of the United States are rural children, it is obvious that the problems of the rural child must meet with careful consideration in any program of child conservation.

At the request of the State board of health it was decided to conduct the study in North Carolina, which may fairly be considered a typical Southern State, with its characteristic population, customs, climate, soils, and crops. The inquiry was necessarily confined to definite and limited areas, and an effort was made to choose sections representative of rural conditions in different parts of the State.

North Carolina is clearly divided into an eastern coastal plain of low-lying land, intersected by many streams, partly swamp land but mainly sandy and fertile loose loam soils; a central or piedmont region of higher altitudes and a greater variety of fertile soils;¹ and a western or mountainous region in the heart of the Appalachian system. Cotton raising is the leading industry of the coastal and piedmont regions; in the mountains little crop farming is done and the chief dependence of the people is live-stock raising and the development of timber interests.

A lowland county, lying at the junction of the coastal and piedmont sections, was selected as representative of conditions in the cotton belt, and a mountain county in the extreme western part of the State was chosen as a typical mountain county embodying characteristics not only of western North Carolina, but also of other mountainous sections of the Southern Appalachian system.

The inquiry was initiated in the lowland county by a children's health conference and a child-welfare exhibit at the county seat, and followed by a series of conferences in each township of the county.

Following the children's health conferences an intensive detailed house-to-house study of the children was made in one rural township of the lowland county (in the cotton belt), and in three smaller rural townships of the mountain county.

¹ Thirteenth Census of the United States, 1910, Vol. V, Agriculture, p. 895.

In the townships chosen every home in which there was a child under 16 was visited; the survey included in the lowland county township 127 white families with 340 children, and 129 negro families with 404 children under 16; in the three townships of the mountain county 231 white families with 697 children under 16 were visited. The inquiry, which was made in 1916, covered a period of approximately three months in each county. During this time the bureau agents lived in homes in the townships visited rather than maintaining headquarters at the county seat, in this way gaining a somewhat fuller experience of particular rural conditions and problems than could otherwise have been possible. In the lowland county a Ford car was used for travel; in the mountains, owing to the condition of the roads (with the exception of the main road to the county seat), the agents rode horseback.

Whenever possible the mother was interviewed, otherwise the father, grandmother, or other nearest relative. Information was obtained concerning various phases of child care, together with a comprehensive history of each family in its relation to the well-being of the children of the family. The questions covered the number of children the mother had borne; the number lost, with the causes of their deaths; the mother's prenatal, obstetrical, and postnatal care; distance from physician; nursing care; infant feeding; diet of older children, their physical condition, education, work, and recreation; the mother's household and farm duties; and the housing, sanitation, and economic status of the family.

The inquiry was confined to normal children, no attempt being made to cover dependency, delinquency, illegitimacy, or other problems of abnormal children except a brief survey of State facilities for their care.

Certain phases of child welfare were covered by supplementary studies. Information as to the neighborhood midwives of the four townships was obtained by visiting every midwife who had attended a case within the past five years; a test of birth registration was made and also a brief survey of school facilities in the townships covered.

During the course of the inquiry, various State and other organizations—the State board of health, State board of education, State university, State Normal and Industrial College, States Relations Service of the United States Department of Agriculture, and the staff of an important farm journal—were most helpful in their cooperation, assisting in choosing the counties to be studied, in planning the work, and helping to assemble material for the report.

Local officials and organizations in the counties chosen—the county physician, county superintendent of schools, county medical society, women's clubs, and the press—also showed an active interest in the inquiry and gave every possible assistance.

The success of such an inquiry necessarily depended upon the good will of the community, especially of the families interviewed. Mothers in the sections visited showed the same desire to secure the best possible results in rearing their children and the same cordial interest in the efforts of the Children's Bureau to study the problems of childhood that have been found elsewhere. A friendly, hospitable reception was accorded at every home, both mothers and fathers giving every possible assistance. In fact notes, messages, and remonstrances were sent by mothers whose homes had not yet been reached and who feared they might be overlooked. At one home a note was found pinned to the front door, directing the agents to the field where the mother would be found at work.

The results of the inquiry fall under the five following heads: (1) Children's health conferences, (2) and (3) the survey of conditions surrounding children in the lowland and mountain counties, (4) summary and conclusions, and (5) the State and its relation to child welfare (see Appendix, p. 101).

PART I.

CHILDREN'S HEALTH CONFERENCES.

The children's health conferences, held first at the county seat and later in rural sections, were a series of consultations of physicians with mothers concerning the physical development of their children and were in charge of a physician from the Children's Bureau.

The purpose in view in holding the conferences was (1) to call the attention of mothers to methods of improving the condition of their children, (2) to demonstrate to the communities the value of periodic examination and sustained supervision of young children, and (3) to stimulate local authorities to various forms of follow-up work as suggested by the conference.

CONFERENCE AT THE COUNTY SEAT.

The conference met with a cordial response from local organizations. The mayor, clergy, school officials, and other prominent citizens offered every possible assistance. The civic association, the county medical society, local hospitals, and other organizations gave practical expression of their interest in the work.

Ample publicity was obtained through the courtesy of the State and local press, which gave generously of their space; also through the health bulletins of the State board of health. A letter addressed to all mothers of young children was sent through the cooperation of schools into every home where there was a child. Attractive cards announcing the conference appeared in the windows of schools, churches, stores, railway stations, and elsewhere. Notices announcing the conference and inviting mothers to bring their young children to it were read from every pulpit. To attract the school children, a prize of a five-dollar gold piece was offered by the Children's Bureau for the best composition written by a child under 12 on the conference and its accompanying exhibit.

The conference at the county seat was held at a rest room maintained by the civic association for the use of rural women from the surrounding country when they come to town to do their Saturday's shopping. It extended over 10 days, including two Saturdays, in order to reach as many as possible of the rural women. After the conference for white children, one was held for negroes in an assembly hall of their own, with negro doctors and nurses assisting the Children's Bureau physician.

Children under 6 years of age, brought by their parents, were examined by a physician of the Children's Bureau or by local physicians. Each child was weighed, measured, and examined, and the mother given a record of his present condition with written suggestions for his improvement; when necessary the mother was urged to take the child to her own or the best available local physician. The examinations were conducted in view of the audience, that the mothers might observe and profit by the practical demonstration, but with a partition of netting separating the examining room from the audience, to protect the child from the crowd and confusion beyond.

It was made clear that the conference was neither a contest nor a clinic. No prizes were offered, and there was no other incentive than the desire of parents for finer children; nor were sick children admitted, or those recently exposed to communicable diseases. The conference was intended rather for the average child who though apparently well is yet rarely free from defects which may often be corrected if discovered in time.

Accompanying the conference was a child-welfare exhibit of material, part of which had been prepared by the Children's Bureau and part loaned by various organizations or constructed (under the direction of the agents of the bureau) by local women's clubs. A set of panels covered such subjects as prenatal care, infant care, infant mortality, and the visiting nurse. A series of charts on flies, typhoid fever, and malaria was loaned by the State board of health and one on the care and eruption of teeth by a local dentist. Models added greatly to the value of the exhibit. An electrical device showing the infant mortality of the State was loaned by the State board of health; in a village of 100 miniature homes lights went out, one by one, as babies died, showing the infant mortality for the State. Another electrical model warned against the danger of "doping" the baby. A sleeping basket, bathing equipment, and suitable clothing for the baby of a family of limited means were shown; also a homemade playing pen and simple homemade toys. In a glass case was displayed a home with flies and mosquitoes breeding in the neglected back yard and outhouses. A homemade fireless cooker, iceless refrigerator, and flytrap were loaned by the home demonstration agent of the Department of Agriculture.

The care and preparation of modified milk for the baby was demonstrated by a nurse from a local hospital, and a representative of the home economics department of the State Normal Industrial College demonstrated food values and the preparation of food for the growing child.

In a series of informal talks, the physician of the Children's Bureau discussed with the mothers such subjects as prenatal care, obstetrical care, care of the baby and the young child, care of the sick child, school lunches, medical inspection of the schools, and the value of a visiting nurse.

Through the courtesy of the local moving-picture houses a Children's Bureau film, "A Day in a Baby's Life," was shown; also public-health slides loaned by the State board of health and other organizations.

The attendance at the conference was drawn not only from the county seat but from the surrounding country as well, farmers leaving their fields in the midst of the busy plowing and planting season and driving 12 and 15 miles to bring their children for examination. Doctors came with small patients, parents brought children, and teachers came for help with their problems. A number of mothers and babies were brought into the conference each day from a near-by mill village by the manager of the mill. One father at first thought the conference only an excuse for the mothers to go to town and refused to have his child examined, but when he saw the record given his brother's child he insisted that his own son be brought for examination. The mothers admitted that they carried their babies' records around in their pockets and compared notes at leisure moments.

The attendance often taxed the accommodations to the utmost, and the increasing number of children brought for examination was perhaps the best evidence of its growing hold upon the public. One hundred and forty children were examined at the white conference and 49 at the conference for negroes. The value of the conference, however, can not be measured wholly by the number of children examined. Not only those who brought children for examination, but also many others—children and adults—were in attendance; and the interest they displayed in all that was said and done can but lead to good results.

CONFERENCES IN RURAL COMMUNITIES.

After the conference at the county seat, each of the 12 townships of the county was visited and an afternoon or evening conference held. In 1 township, because of the crowd, it was necessary to repeat the white conference; and in 2 townships a second one for negroes had to be arranged; in all, 27 rural conferences were held, and, in addition, 4 in small mill villages.

As a rule the district school was the chosen meeting place, though occasionally the church was selected when it was more centrally located or would better accommodate the crowd.

As at the county seat, the conference was cordially received in rural communities, preachers, teachers, doctors, and other leading citizens all assisting in every possible way. Several ministers came repeatedly to ask that their districts be included in the circuit. More than one good negro meeting was due to the efforts of the negro midwife. Like the preachers and the teachers she is an autocrat in her community, and mothers naturally shy about bringing children for examination would obey her arbitrary summons. One was heard to insist that the mother "take that child to the doctor and see what makes her have sore eyes." (At a later private interview this midwife was urged to write to the State board of health for a proper solution of silver nitrate with instructions for its use.)

In a preliminary visit to the townships, prominent persons had been consulted in regard to convenient dates and places for conferences. Window cards had been placed in the windows of country schools, churches, and stores, or tacked to conspicuous trees. Notices had been read in schools, churches, and Sunday schools. In one community publicity had been secured by a flourishing woman's club. For the most part, however, the news traveled by word of mouth—the usual medium of communication in rural districts.

The rural conference differed from that held in the county seat only in size and in the ability of the agents to meet the mothers on a more intimate footing in their own immediate neighborhood than in the more formal town conference. The mothers felt freer to ask questions and compare experiences with their neighbors and friends.

Although it was obviously impossible at the rural conference to use the original exhibit previously described, with its electrical devices, a small traveling exhibit of miniature models was shown, covering the essential points of the care of the young child—his bathing, clothing, sleeping, and feeding. Most of the time was spent in examining the children and demonstrating methods (and results) of applying well-known principles of hygiene, within reach of every woman. At night meetings, using a simple acetylene equipment, slides were shown which, with a short informal talk, never failed to arouse interest.

Considering the sparsity of the population—many families not having a neighbor in sight—the attendance was most unexpected. Twenty-seven conferences were held with an average attendance of 78 at the white and 87 at the negro meetings. Twenty-two hundred and six rural persons were reached, exclusive of those attending the conferences at the county seat, and 162 children were examined.

As at the county seat, the audiences included all classes. There were represented the children of the prosperous planter, of his tenant, and of his day laborer. Many were brought by parents for advice in regard to feeding problems; others came with a physician who

wished to confirm a diagnosis. At one meeting two adopted children were brought by their foster mother. On the way from a rural conference a father signalled the agents, as they drove past his house (apologizing, as he said, for "flagging the train") and begged their advice concerning his little lame boy who could not be brought to the conference. At a negro meeting, a colored elder who had come too late for the "scenery" (stereopticon slides) but in time for the talk, expressed his appreciation of the work being done for his race. In their enthusiasm the negro audiences often refused to be dismissed, and were left to discuss the new doctrine after the close of the meeting. Following one of these conferences, a mother and her two children who had missed the meeting the night before were found at the door the next morning waiting to have the children examined before the agents took an early train.

RESULTS OF THE CONFERENCES.

The results of the conference were seen on every side. Mothers were made more observant and more critical of their children and a general stock taking by the mothers of this section followed. A father who had brought a poorly developed child to the conference was heard to say several weeks later, "My wife couldn't go, but I went and took it all in, and we're raising our baby like the doctor said." Parents who had brought a child to one conference would often appear at a neighboring conference with a second or third child of their own or one of a neighbor's. Following the conference, many children received the attention of dentists and throat specialists; and others, whose needs had previously not been recognized, were brought into touch with their family physicians.

Many practical evidences of the work were seen in driving through the country. Babies heretofore kept indoors were found sleeping on the porch or out under the trees in homemade cribs. Mothers showed with pride their own or their husbands' modifications or adaptations of models seen in the exhibit. Playing pens, homemade toys, fireless cookers, iceless refrigerators, and flytraps were made by many. An ambitious teacher who was developing a domestic science department for mothers and young girls had reproduced in her school models seen in the exhibit.

The agents also indorsed the project of installing an incinerator at the county seat for the disposal of garbage and waste. The incinerator has now been in operation for over a year and is helping to convert an attractive town into one that is also healthful and sanitary.

During the conference of the Children's Bureau at the county seat the agents had an opportunity to join in an effort to crystallize public opinion upon the value of a visiting nurse. So convincing were the

results of the first few weeks of this nurse's service, that after the negro conference the negro population secured pledges of almost the entire salary of a negro nurse, the white people supplementing the amount.

The response to the conferences in rural sections showed how eagerly the services of a public-health nurse for rural districts of the county would be welcomed. Such conferences as were held by the Children's Bureau, chiefly as demonstrations, might be held at intervals by a public-health nurse, as a part of her routine. Informal talks with the mothers at the conferences also revealed certain particular needs of the community which a public-health nurse would be able to meet, such as prenatal care and assistance at confinements, advice as to the care and feeding of the young child, examination of school children for physical defects with follow-up visits in the homes to make sure that the necessary treatment is secured, and the education of the community in the importance of hygiene and sanitation.

The children's health conferences proved a successful means of introducing the inquiry of the Children's Bureau in the State and secured the interest of various organizations to whose helpful cooperation the bureau is indebted for much of the material contained in this report.



PLATE I.—AT THE CHILDREN'S HEALTH CONFERENCE.



PLATE II.—A CHILDREN'S HEALTH CONFERENCE AT A NEGRO CHURCH.



PLATE III.—THE INFANT-CARE EXHIBIT IS ALWAYS POPULAR.



PLATE IV.—A HOMEMADE PLAYING PEN—COST, 40 CENTS.



PLATE V.—OUT-OF-DOOR BABY IN A HOMEMADE CRIB.



PLATE VI.—GOOD SAND-CLAY ROAD THROUGH THE PINE WOODS.



PLATE VII.—COTTON IS THE "MONEY CROP" IN THE LOWLANDS.



PLATE VIII.—SANDY PLAINS OF THE LOWLAND COUNTY.



PLATE IX.—TIMBER LANDS ARE FAST DISAPPEARING.



PLATE X.—A PROSPEROUS PLANTATION HOME.



PLATE XI.—A NEGRO TENANT'S CABIN WITH DAYLIGHT SHOWING BETWEEN THE LOGS.



PLATE XII.—DRILLED WELL CONVENIENTLY NEAR THE HOUSE.



PLATE XIII.—THE DANGEROUS OPEN DUG WELL.



PLATE XIV.—A THREE-TEACHER WHITE SCHOOL.



PLATE XV.—NEW ONE-TEACHER NEGRO SCHOOL.

PART II.

THE LOWLAND COUNTY SURVEY.

During the course of the rural conference local citizens were consulted in regard to the characteristics of the various townships of the county, and a township thought to be a typical rural section of the cotton belt was chosen for intensive study.

CHARACTERISTICS OF THE TOWNSHIP.

The township lies 6 to 14 miles from the county seat, which is the nearest town, and consists of open country along the bank of a broad swift stream. The land is low, level, and, except along the river bottom, is sandy and porous. The soil, debilitated by years of exclusive cotton growing, demands heavy and expensive fertilization in order to produce a good yield.

The climate is warm and humid, with the long summers especially adapted to cotton raising. The Weather Bureau records for the county seat, over a period of 28 years, show a mean temperature of 44° in January and 79° in July, with a minimum of -5° and a maximum of 103° for the year.

Farming is the chief industry and is pursued under a system of tenancy. Good water power is utilized only for small grist and saw mills. Great piles of sawdust mark the site of mills which have cut out most of the timber, and the forests have given way largely to farms.

The township has two main roads of sand-clay construction, maintained in good condition, which lead to the county seat. The other roads, however, are for the most part neglected; so also are the bridges, except one of steel construction. There are no railroads within the township. Rural free delivery of mail is available for all the families, and a few homes have telephone connections.

The history of the township dates back to the colonial period when the Cape Fear section was settled by Scotch Highlanders. The Scotch strain and a preponderance of Scotch names have persisted in this section down to the present time. There has been practically no immigration of other nationalities and the population is uniformly native-born American, about evenly divided between the whites and

¹ McLean, J. P.: *Scotch Highlanders in America*, p. 102. Helman-Taylor Co., Cleveland; John Mackay, Glasgow, 1900.

negroes. The county has a rural population density of 27.9 persons to the square mile,¹ which also probably approximates the population density of the township. It is a considerably more thickly settled area than the average rural section in the United States, which has a density of 16.6 persons to the square mile,² but is more sparsely settled than the rural sections of the South Atlantic States for which the average rural density is 33.8.²

FINDINGS OF THE SURVEY.

ECONOMIC STATUS OF FAMILIES.

Land tenure.

The families in the neighborhoods visited fall roughly into three distinct social economic groups—landowners, white tenants, and negro tenants. Approximately three-fifths of the white families are owners of the land on which they live; of the negro farmers, only one in four is a landowner. Various systems of tenancy are found, the "half-share" basis being the most common. This is an arrangement by which the tenant and the landlord each gets half the crop; if the landlord supplies the stock, he and the tenant each furnish half the fertilizer; where the tenant supplies stock, the landlord furnishes all the fertilizer.

By far the majority of tenants are "croppers," rather than cash or standing rent tenants; an occasional family, however, pays rent outright—usually in cotton at the rate of one 450-pound bale of lint cotton for 12 acres of land under cultivation.

Crops and acreage.

The average farmer confines his operations to the raising of cotton and corn and a garden patch. Some also have a small acreage in tobacco, peas, small grain, peanuts, or sorghum cane. Cotton is the money crop and this section of the country, like other parts of the South, is suffering from an overcultivation of cotton at the expense of food and feed crops.

The country visited has a soil well adapted to cotton raising, except for a small area of sand hills. Cotton production per acre averaged seven-tenths of a bale on the white farms visited and three-fifths on negro farms.

Little produce is sold except cotton and cotton seed, and, rarely, tobacco, corn, stock, butter, chickens, and eggs. One of the most successful farmers of the township, however, makes it a rule to support his family on crops other than cotton, saving the profit on cotton always for enlarging his farm business. He finds it better to plant more corn, beans, etc., rather than cotton alone, which varies more in price than any other crop.

¹ Thirteenth Census of the United States, 1910, Vol. III, Population, p. 298.

² Thirteenth Census of the United States, 1910, Vol. I, Population, p. 55.

About half the white and over four-fifths of the negro farms of the township are "one-horse" farms, with approximately 25 acres in cultivation—often 15 in cotton and 10 in corn. With cotton production averaging well under a bale an acre, the limited one-horse crop is a poor dependence at best, even when operated by the farm owner who gets the whole of the crop made; when operated by a tenant on half shares, the family money income may dwindle to four or five bales of cotton, with a total cash value (at the time of the inquiry) of from \$200 to \$300.

Cost of cotton production.

Cotton is an expensive crop to produce; due to lack of a crop-rotation system, a good yield is impossible without heavily fertilizing the land. One ton to every 3 acres is the rule, which with fertilizer at \$28 and \$30 a ton at the time of the inquiry represents a considerable investment. Moreover, it is a handmade and not a machine-made crop, and labor is an appreciable item; help hired for "chopping" and picking cotton amounted to something like \$6 or \$7 a bale at the time of the inquiry. Ginning added another \$2 a bale if ginned in town, \$2.50 if at one of the neighborhood gins.

Credit systems.

The average farmer begins the season heavily in debt for his fertilizer which he buys "on time," payable in the fall of the year after the crop is made. Where a tenant is making a crop, the landlord gives his note for the fertilizer and the tenant settles with him at the end of the year; also, the average tenant family has to be "carried" by merchant or landlord for groceries and provisions used during the spring and summer. By the time the crop is gathered at the end of the season, its money value has been largely anticipated, and the clear profit remaining after the debts incurred during the farm season have been paid off leaves but a slim financial support for the family during the coming 12 months. "We feel rich after the crop is sold," one farm tenant expressed it; "rich till we get to the people we owe."

That the various systems of credit in the purchase of groceries and small goods are working to the detriment of the community is the opinion of many in the neighborhood. Some families, of course, pride themselves on always paying cash; others pay cash through the autumn and winter as long as the family income holds out and then buy "on time," payable with 6 per cent interest in the autumn after the crop is made. Chickens and eggs, and occasionally other produce, are traded at the country stores. The landlord usually keeps a commissary where such supplies as meat, corn meal, rice, sugar, sirup, coffee, snuff, and tobacco may be had and charged to the tenant at the same rate of interest he would pay at the country store. These accounts are long-time credits, payable in the fall of

the year. Aside from the interest on the account, the time price is almost invariably higher than the cash price. A farmer who had bought "on time" last year is trying to pay cash this year, for from one-fourth to one-third is added to the price when he buys on time. For instance, he had bought a sack of "shipped stuff" on time for \$2.50; on the same day at the same store his father bought a sack for \$1.60 cash. Another farmer finds it cheaper to borrow money to carry him through the summer, about \$50 at 10 per cent, than to buy "on time," paying 25 cents more on the dollar besides the 6 per cent interest when the bill is paid in the autumn. Sometimes a crop lien, or written contract with the crop as security, is required before the merchant will "run" a customer; often, however, the agreement is by word of mouth if the merchant feels reasonably sure of getting his pay. The negro farmer, more commonly than the white, buys on credit and suffers particularly from the high credit prices; a crop lien, too, is more likely to be required of him. One man explained that since the legal rate of interest is 6 per cent, only 6 per cent appears on the note, but, in addition, one pays about 10 cents on the dollar more for supplies bought on time. A negro woman who "owes out" about \$20, pays 10 per cent—6 per cent interest and 4 or 5 per cent "what they call premery" (premium).

Another who had made 7 bales of cotton on half shares had no idea how much it brought, for the landlord took it all, including the seed, to square her debts. One negro family got supplies from the landlord's country store; they turned over all their cotton and seed to him; he settled with them in February and gave them \$50 as their share of the crop (they had made $9\frac{1}{2}$ bales of cotton on half shares and the landlord had supplied them with flour, sugar, "strip meat," and rice). "When fall comes, there's not much in it for you," said one tenant. The tenant family rarely keeps an account of its expenditures, depending upon the records in the landlord's books.

The installment plan, though in many ways filling a real need, also adds to the financial burden of many families because of the higher prices charged for installment purchases. Sewing machines are often bought in this way, also stoves, crayon portraits, books, and even medicines from the patent medicine man on his monthly rounds. A \$25 sewing machine, at \$2.50 down and \$2 per month, costs the family \$40 to \$50. A mule is almost invariably bought on the installment plan; few families can afford the expense of paying outright the \$250 to \$300 cash price. Cooperative buying in this township, except in a few isolated cases, is practically unknown.

Crop disposal.

Cotton is usually marketed at the county seat, 6 to 14 miles away; tobacco is shipped to several points where it brings a better price than on the local market. Often the landlord buys his tenant's crop, almost invariably in the case of negro tenants. He can afford to hold his cotton for higher prices while the tenant must sell immediately to pay his debts.

Farm labor.

Among the tenant farmers, after a man has finished working his own crop, he, and sometimes his wife and children also, hire out for a few days at farm labor, to supplement their scant income. Farm labor, at the time of the inquiry, was poorly paid, 75 cents a day for a grown man, 50 cents for a grown woman, and 25 to 50 cents for children. Cotton picking is piecework, paid at the rate of 50 cents per 100 pounds picked, with 200 pounds per day as a good average.

HOME CONDITIONS.**Housing.**

WHITE FAMILIES.—The children's home environment varies widely according to the social and economic status of the family. The typical home of the prosperous planter is a big, comfortable farmhouse, with a generous brick fireplace at each end—a traditional southern home, with its large cool rooms, deep verandas, fine trees, sturdy old scuppernong vines, and, in the distance, well-kept cotton fields.

The tenant's children are not so well provided for. The average tenant family occupies an unpainted, clapboarded cottage of four small rooms, ceiled inside but not plastered, often with no shade around the house—a hot, sandy little plat of ground. One family of tenants visited lived in a little rough shack in the midst of the woods, with insufficient cleared space around the house to admit any breeze. Flies, mosquitoes, and gnats were numerous though the family kept a bucket of pitch burning on the porch. Another tenant cottage—a rude shack of upright boards—is the home of father, mother, and five small children; the mother called it "shanty-ing" and was anxious to move in the autumn. "The crop is too inconvenient, the water is bad (a dug well, open and unprotected, and only 12 feet from the house), the crib's too near, and there's a pond back there," summed up her objections to the place.

The farm tenant frequently moves from farm to farm in the hope of bettering his poverty-stricken condition, but usually not straying far from the neighborhood where he was born. The unstable nature of his tenancy and the lack of any permanent interest in his surroundings discourage any attempt on his part to improve his cottage or its grounds.

The sawmill hand is even more of a will-o'-the-wisp, moving constantly as the sawmill exhausts the surrounding timber. A mother whose husband "followed the sawmills" complained that "it was move every time the wind blows; if I was to say 36 times since I was married, I wouldn't miss it."

NEGRO FAMILIES.—Negro housing accommodations are almost uniformly poor. The commonest type of negro home is the old-fashioned log cabin of one, two, or three rooms, daylight showing between the logs. Such a house is hot and stuffy in summer with the sun beating in, while in winter it is almost impossible to heat it, even with the cracks chinked with mud and a roaring fire in the open fireplace. A cabin like this leaks in stormy weather and leaves the floor damp for a day or two afterwards. There is usually some attempt at decoration, gay-colored chromos, crayon portraits, and ornaments of various sorts within and flowers without on every side—four-o'clocks, sunflowers, weeping Mary, and tiger lilies. Rooms are incredibly small and stuffy, with low ceilings; often a cabin originally one-roomed has been cut up by thin partitions into two, three, or even four tiny rooms. Some cabins are windowless, many have windows without glass panes, heavy solid wood shutters taking their place. A number of negro homes were badly crowded for space; one-fourth of the families visited had five or more persons to a sleeping room. At one home, a small room, half the original room, with no window and absolutely dark, contained two beds where five persons slept. In another cabin an entire family of 12 slept in one large room with a curtain stretched from side to side.

Sanitation.

PRIVIES.—Sanitary conveniences are deplorably lacking at many white as well as negro homes. More than half the white families visited had no toilet of any description on their premises. One family of tenants explained that there had been a privy on the place when they came, but it was so filthy that it had to be torn down; another tenant, who upon moving into the present house had obtained a promise from the landlord to build a privy, had already lived there a year without one. More than one family frankly prefers to have no privy, disliking the idea of accumulated filth and not appreciating the dangers of soil pollution. Many families, however, recognize the importance of the privy in safeguarding the family health. Where a privy is present it is commonly of the open-in-back surface type, usually dependent upon the scavenging services of chickens and hogs, which have easy access through the open back; occasionally the privy is built on the side of a hill with the contents draining into the "branch." Some families, however, have the privy cleaned and the contents buried with reasonable frequency, and some attempt disinfection by the use of lime, dirt, sulphur, or wood ashes.

Four-fifths of the negro families visited were without a privy; often where there was one it was not in use, so little was its importance understood as a sanitary precaution against disease. "Yes'm," said a negro woman, "there's one there, but nobody uses it but company." One family "never fools with one; if you use it you have the bother of keeping it clean." A negro woman with higher standards, however, induced her husband to build one for her, though she was the only member of the family who desired it or ever used it.

WATER SUPPLY.—Although only one of the homes visited had a pump and sink inside the kitchen, white families were as a rule provided with a drilled well and iron pump within a few feet of the kitchen door. This type of well is usually satisfactory, the iron pipe protecting the water from contamination; occasionally a drilled well gives bad water because it has not been drilled to a sufficient depth.

Twenty-two of the 129 negro families and an occasional white family were dependent upon the dug well—not only open and unprotected from dust and dirt but also exposed to contamination from drainage, a particular risk in a neighborhood so lacking in sanitary conveniences. One tenant family carried water from the drilled schoolhouse well; they have an open well in the yard, but the water is not good. One negro woman had entire confidence in her own method of purification. "I put me a fish in the well and he cleanses the water," she said.

The State board of health, in its pamphlet on "Plans for Public Schoolhouses," comments upon the dangers of the open-topped well:

Open-topped wells are always dangerous and should never be used. During the course of a single year a tremendous amount of dirt, leaves, bugs, and other insanitary material gets in open-topped wells. Sometimes toads, lizards, snakes, and small domestic animals find their way into such wells. A good iron pump is infinitely safer than chains or ropes and buckets. In the case of open-topped wells the buckets, chains, and water in the well are very frequently polluted by dirty hands.¹

Only an occasional family uses spring water, for springs are uncommon in this section of the country. A negro family carried water from a spring one-eighth of a mile away; it is not only far from the house but evidently unfit for use, being full of decaying matter and in no way protected from surface contamination. Another spring gets so low that it had to be walled in with boards to make the water rise high enough to be dipped with a pail. Rarely one finds the old-fashioned well sweep, picturesque but insanitary, with its "old oaken bucket."

FLIES AND MOSQUITOES.—Flies and mosquitoes in this neighborhood constitute a real pest during the summer months. Flies are numerous because of lack of toilets, open-in-back, exposed privies,

¹ Plans for Public Schoolhouses, p. 33, issued from the office of the State superintendent of public instruction, Raleigh, N. C.

accumulations of manure, insanitary disposal of garbage and other refuse, and also because, in many cases, the stable and hogpen are located too near the house. Scattered ponds and some swamp lands are responsible for the prevalence of mosquitoes, which during the summer months make life almost unendurable after dark. Late in the afternoon a road through the woods can scarcely be traveled without a great branch as a weapon to beat off the mosquitoes.

The average family, white or negro, is without screens of any description. Only 19 of the white homes out of 127 visited, and no negro homes were adequately screened, i. e., with screens at both doors and windows. Several had screened the doors or the doors and kitchen windows. Fly paper and fly traps are used to some extent. Many families "smoke out" mosquitoes, using a bucket of smoking coals, pitch, or rags on the porch or doorstep.

DISPOSAL OF WASTE.—Garbage is fed to the hogs and chickens; other refuse is disposed of variously—burned by the more careful families, by others hauled off to the woods, thrown in the ditch, hauled to the swamp, swept out to the edge of the yard, thrown down an old well, hauled off to fill in low places, thrown in the thicket, burned around the iron pots used for boiling clothes, or thrown into a mill pond.

Manure is allowed to accumulate in the stables and constitutes a prolific breeding place for flies. "Most any day you can see the flies just a-weaving in that manure," said one mother; at this home every rain washes down into the manure pile, keeping it wet much of the time. It is usually removed only twice a year—spring and autumn—to be used as fertilizer for corn and potatoes. Aside from some half dozen farmers, who see to it that the manure pile is kept covered with straw, there is no effort at guarding against flies from this source. The State board of health in a leaflet on "Flies," for distribution in rural communities, advises having the manure hauled out and away from the stable regularly twice a week from April 15 to November 15, and once a week from November 15 to December 15, and from March 15 to April 15.

MATERNITY CARE.

The care of the mother during her pregnancy and confinement should be a matter of vital concern to any community. A recent bulletin of the Children's Bureau shows that in 1913 childbirth caused more deaths among women 15 to 44 years old than any disease except tuberculosis.¹ This bulletin further points out the close relation between the deaths of infants occurring in the first days and weeks of

¹ Meigs, Dr. Grace L.: *Maternal Mortality from all Conditions Connected with Childbirth in the United States and Certain Other Countries*, pp. 7 and 9. U. S. Children's Bureau Publication No. 19, Miscellaneous Series No. 6, Washington, 1917.

life and the proper care of the mother before and at the birth of her baby; also the fact that each death at childbirth is a serious loss to the country, since the women who die from this cause are lost at the time of their greatest usefulness to the State and to their families. Moreover, the loss to the community occasioned by a failure to safeguard women at this time can be by no means adequately measured by the deaths occurring at childbirth. Many women endure a lifetime of ill health which they date from a particular confinement when for various reasons proper obstetrical and nursing care were lacking.

During the inquiry 79 white and 86 negro mothers—who had given birth to a child, live or stillborn, within five years previous to the agent's visit—were interviewed with especial reference to maternity care at their last confinement.

The early marriage age of the average rural woman of this section gives her a long childbearing period. Two-thirds of the white mothers visited had married at 22 years of age or younger, nearly half at 20 or younger; of the negro women, about three-fifths had married at 20 or younger—more than one-third at 18 or younger. Small families are uncommon in this section of the country, and it is the exceptional mother who has not borne a number of children. Approximately three-fourths (74 per cent) of the white mothers, married 10 years or more, and almost nine-tenths (89 per cent) of the negro mothers, had had six or more pregnancies.

The rural woman of this section has not yet realized that she is entitled to skilled attention in her confinement, and faces the perils of childbirth with undue serenity. Until the mother herself demands as her due (with her husband's recognition of the necessity for the expense) skilled medical and nursing care during pregnancy and confinement, there can be little hope of improved standards of maternity care for rural communities.

Lack of medical care was frequently mentioned as a serious drawback to country life. One young father wished "the Government would do something about it"; he thinks there should be at least one doctor in every township. That the Government should send medical experts through the country especially for women and children was the opinion of another who wanted to know why his wife has never been well since their second baby was born.

Although 27 physicians are resident in the county,¹ this is an inadequate medical service for a population of 33,719,² since it means an average of 1,249 persons to each physician, which is nearly twice the average—691³—for the United States. Moreover, since 19 of the 27 physicians are concentrated at the county seat,

¹ American Medical Directory, 1916.

² Estimate of U. S. Bureau of the Census for 1916.

³ Bulletin of the American Medical Association, Jan. 15, 1917, p. 114.

and the other 8 are scattered in small villages and through the rural sections, there is a decided lack of available medical service in various parts of the county. In the township covered by the survey no physician is resident, and the families are from 3 to 14 miles distant from the nearest doctor; not an excessive distance perhaps, but because of scant telephone connection and bad roads during part of the year the doctor is often inaccessible when sorely needed.

Facilities for medical, hospital, and nursing care.

The distance of the family from the physician is in many cases so great that medical assistance is called in only if the patient's condition is critical. Only 5 of the 127 white families visited and 15 of the 129 negro families were within 5 miles of a doctor; more than one-fourth were 10 miles or more from their nearest physician. Distance is not the only obstacle in obtaining a physician. A swift river, which must be crossed in a small bateau and which at times is impassable, forms a natural barrier, entirely cutting off the people of one community for part of the year from their nearest physician.

A strong county medical society has been in existence for some years and has been active in its support of public-health measures. Hospital facilities in the county are exceptional; there are two good general hospitals located at the county seat, one with 70 and the other with 25 beds. Each hospital maintains a training school for nurses.

A woman's club at the county seat is maintaining a public-health nurse, whose work at the county seat and in the surrounding mill villages has been so productive of results that a negro nurse for the negro population has recently been employed by that race. As yet, however, both nurses have confined themselves largely to the area adjacent to the county seat and little public-health nursing in rural neighborhoods has been attempted. The township of the survey is entirely beyond the territory covered by either nurse.

Maternal deaths.

The county had in 1916 an alarmingly high maternal mortality from causes connected with childbirth; 14 deaths (4 white and 10 negro) occurred during that year,¹ a rate of 41.5 per 100,000 population.² It is impossible to determine whether this rate is sporadic or usual, since mortality statistics for the State and its counties are not available earlier than 1916, when the State was admitted to the Census's area of death registration.

Moreover, in considering a small area and a small number of deaths, the rate is often misleading. However, with due allowance for error, mortality from causes connected with childbirth is exces-

¹ Information supplied by the bureau of vital statistics, North Carolina State Board of Health.

² Based on an estimate of the U. S. Bureau of the Census in 1916 of 33,719 for the county.

sively high. The rate in this county (41.5) is markedly higher than in the mountain county (21.9),¹ or in the State as a whole (24.7),² and is nearly three times as high as the 1915 rate (15.2) for the entire death registration area of the United States.³

Analysis of the county maternal mortality shows that though the rate for white women (17.3) is slightly higher than the average for the registration area of the United States (15.2),³ the high total rate for the county is due to the abnormally high rate (93.9) among negro women. This higher rate of maternal mortality among negro women is in accord with the rates for the total area of death registration for which, in 1915, the death rate from causes pertaining to childbirth was 14.6 for white women as contrasted with 25.9 for negro women.³ Puerperal septicæmia (childbed fever), a disease recognized years ago as largely preventable, caused the death of two of the negro women.

It is only recently in this country that public attention has been directed to the high mortality from childbirth and to a consideration of its underlying causes. A bulletin of the Children's Bureau on Maternal Mortality finds that the fundamental factors responsible for the lives of women lost in childbirth in this country are "first, general ignorance of the dangers connected with childbirth and the need of skilled care and proper hygiene in order to prevent them; second, * * * difficulties related to the provision of proper obstetrical care"⁴—a conclusion which is apparently true of this community as well as of the country as a whole.

Prenatal care.

The necessity for supervision and care of the mother before the birth of her child is becoming recognized in cities and towns; in this community, however, prenatal care is negligible.

A fair standard for adequate medical prenatal care would probably embrace the following points:⁵

1. A general physical examination, including an examination of the heart, lungs, and abdomen.

2. Measurement of the pelvis *in a first pregnancy* to determine whether there is any deformity which is likely to interfere with birth.

¹ See p. 68.

² Information supplied by bureau of vital statistics, North Carolina State Board of Health.

³ Mortality Statistics, 1915, p. 59. U. S. Bureau of the Census, Washington, 1917. Sum of the rates there given for "puerperal fever" and "other puerperal affections."

⁴ Meigs, Dr. Grace L.: Maternal Mortality from all Conditions Connected with Childbirth in the United States and Certain Other Countries, p. 24. U. S. Children's Bureau Publication No. 19, Miscellaneous Series No. 6. Washington, 1917.

⁵ Outlined after consultation with Dr. J. Whitridge Williams, professor of obstetrics, Johns Hopkins University. See Maternal Mortality from all Conditions Connected with Childbirth in the United States and Certain Other Countries, pp. 12, 13. U. S. Children's Bureau Publication No. 19, Miscellaneous Series No. 6. Washington, 1917.

3. Continued supervision by the physician, at least through the last five months of pregnancy.

4. Monthly examination of the urine, at least during the last five months.

According to this standard, none of the mothers visited can be said to have had adequate prenatal care. Pelvic examinations were unknown, urinalyses rare, and in the majority of cases the physician knew nothing of the case until called to deliver the woman. Of the 79 white mothers for whom this information was obtained, 21, or less than one-third, saw a physician before confinement, and only 12 had urinalysis. Of the 86 negro mothers, 2 saw a physician before confinement and 1 reported urinalysis. When a negro midwife is to have the case, she occasionally stops in to see how the mother is progressing. Eight white mothers and 27 negro mothers had seen a midwife in this way, which can not, however, be considered prenatal care.¹

Scant provision is made for the approach of childbirth. Commonly a physician or a midwife is notified through the husband, mother, or other messenger of the expected date of confinement. Many, however, fail even to make this provision, and, finding the doctor out on a call, much valuable time is lost hunting a substitute. The more prosperous families engage both a physician and a midwife—the midwife to serve as nurse and to come several days before confinement is expected, to be present in case of emergency.

Attendant at birth.

Two-thirds of the 79 white mothers were attended in confinement by a physician; that is, these mothers had engaged a physician, though in 10 cases he was late and arrived after the baby was born. The negro mothers were almost invariably dependent upon the midwife; only 5 of the 86 negro mothers had a physician, and in 1 of these cases the doctor was late. One had neither doctor nor midwife in attendance. Among the more ignorant of the negroes there was even some prejudice against doctors. "No'm," said one, "I had me a good woman every time."

Besides the difficulty in obtaining a physician because of distance, bad roads, and scarcity of telephones, cost is an important factor in determining the attendant engaged for confinement, many families considering the expense of a physician prohibitive. A midwife charges from \$2 to \$3, and, in addition to obstetrical services, renders other assistance, such as washing the clothing and bedding used, and cooking, cleaning, and helping in the care of the home and children.

Many experiences were reported by the mothers illustrative of the hazards of childbirth in a community where medical care is not always available.

¹ See p. 29.

A mother of three children, living on a comfortable farm of 150 acres, is 10 miles from the doctor. He has been engaged for every confinement but has always arrived too late. The first child was born unexpectedly and fell, striking its head on a chair; it had spasms before morning and died in three days.

Another mother became ill in the evening. A messenger crossed the river in the bateau for the doctor and found he had gone on another case. The doctor did not reach his patient until the next morning and delivery was delayed until he came, the mother suffering greatly. The baby was stillborn—a shoulder presentation.

In another instance, a child who, according to the mother's story, was alive when labor began was lost because the midwife was unable to manage the case and the doctor, who was out when called, could not be reached in time. When he arrived an hour after the delivery he found a stillborn child.

A mother, frightened at losing the previous baby when only 3 days old, sent for a doctor to attend her eighth confinement. He failed to arrive in time and the baby, prematurely born, died in three hours.

A mother of eight children, attended by a midwife at the first three confinements, decided to have a doctor thereafter. A doctor was engaged for each of the next three confinements but failed to reach her in time. When the last two children were born she had only neighbors present, though able and willing to pay for professional service.

A negro woman told of the long hard labor she had had, with the midwife unable to relieve the situation; the "white folks" for whom she and her husband worked sent for a doctor, but before he could get there from the county seat, a distance of 7 miles, the baby was born dead.

MIDWIVES.—Although according to tradition there were two white midwives in this section a number of years ago, to-day this service is drawn entirely from the negro race. Eight midwives were interviewed—7 women and 1 man—ranging in age from approximately 45 to 70 years. The practice of midwifery is often handed down from mother to daughter, as the profession of medicine is from father to son. Caste lines are sharply drawn among the midwives, two of the number doing the "quality" work.

Training for midwifery had in every case been limited to nursing for or assisting local physicians. Those interviewed had practiced from 6 to 26 years, all but two for over 15 years; only three of the eight interviewed were registered with the State board of health.¹ All are illiterate; one only can read and none can both read and write. In spite of illiteracy, however, some are women of good judgment and long experience, and with a certain amount of training gained through occasional nursing for physicians.

¹ See p. 104 for summary of law requiring registration of midwives.

Few of the midwives gave any prenatal care beyond dropping in for an occasional friendly call. None attempted a physical examination or urinalysis. Four reported that they advised the mother in case of any complications to apply to the doctor, though on general principles home remedies are recommended—salts, oil, "black draught," cream of tartar, and burdock for sluggish bowels; and peach-tree leaves, boneset, life everlasting, or mullein for sluggish kidneys. One midwife advises tea of "cidys elder" to reduce the swelling of hands and feet. Some claim that single tansy is especially efficacious for threatened miscarriage.

Although the more prosperous families employ the midwife as a nurse, often having her in the house several days before confinement, in the majority of her cases she is the only attendant and is not called until the woman is in labor. Her preparation usually consists of washing her hands and putting on a clean apron. Two midwives claimed that they used bichloride tablets, though neither had any in the house at the time of the interview; one reported the use of creosol and carbolic acid, and one a kind of "lady powders," the name of which she could not remember. Three reported that they clipped and cleaned their nails. Four own bags or satchels also used for various purposes by other members of the household. None carry their own scissors and only one attempts sterilization of those found at the patient's home. Among the items reported in their equipment were ball thread, tansy, ergot, and half a dozen triturated tablets given one midwife by a doctor. For the most part they depend upon herbs and supplies found at the home of the patient.

The preparation of the mother for her confinement depends largely upon the circumstances of the family; one midwife insists upon a clean bed before and after confinement, though this was usually considered an unnecessary waste of linen. The proverbial old quilt is used by all but one, and one saves washing for her patient by using old rags with which she says she "can keep the bed clean for nine days."

The care of the mother consisted for the most part in copious drafts of tea from time to time, made of pepper, catnip, sweet fennel, mint, wormwood, or tansy. One midwife insists that she gives no medicines, that "if the woman needs medicine she needs a doctor." All admit two or more examinations during labor. One sees to it that all windows are kept closed, and another thinks it "against a woman to have too much air."

Prophylaxis of the new-born baby's eyes consists of washing with boracic acid by two, catnip tea by three, catnip tea and camphor by one, and plain water by two. No midwife had as part of her equipment the nitrate of silver furnished now on request by the State board of health. For sore eyes one washes them with breast milk,

while another advises against its use, for in her opinion it poisons babies' eyes; two bind bruised house leak on sore eyes at night.

The cord is tied with twine or with various forms of cotton—ball, hank, or skein thread; one uses ravelings from a flour sack, and one silk.

The later care of a baby is usually left to the family, though five midwives indorse catnip tea, two soothing sirup, two whisky, four paregoric, and all give oil in some form. One especially recommends giving the baby a piece of fat meat to suck to clear the bowels. For sore mouth, sage tea, or honey and borax followed by a dose of oil, are advised.

Postnatal care.

The country doctor, serving a large area, finds it impossible to give his patients the same after care that is possible with the city physician. Moreover, the mothers commonly have not recognized the need for after care. In about half the cases attended by physicians, however, a visit had been made after the confinement, usually once only, though in eight cases the physician had made two or more postnatal visits. In 29 of the 56 cases (51 white and 5 negro) attended by a physician, obstetrical service was considered complete when the woman was delivered.

The midwife, if within walking distance, expects to see her patient two or three times, or until the baby's navel is healed. If, however, she lives at a distance, as often is the case, the care of the mother and child is left entirely in the hands of her family or neighbors. Of the 108 mothers attended by midwives (28 white and 80 negro), in 77 cases (almost three-fourths), the midwife either remained in the home a few days or returned at least once after confinement.

Nursing care in confinement.

Nursing care during confinement is almost invariably untrained. None of the mothers visited had had the services of a trained nurse; only two employed a "practical" nurse. In a number of families—18 white and 15 negro—a midwife had been engaged to remain in the home after confinement to render nursing services. In a majority of cases, however, the mother was dependent upon untrained nursing, either by a member of the family, a relative who had come for that purpose, or by the neighbors, who are always ready to lend a helping hand. The neighbors were "mighty good," said one mother, "they never missed a day but five or six of them came in, and they were always ready to help cook a meal or do anything." One negro woman had as her only dependence her grandfather and her son of 14; another had only her husband at night, no one in the day time.

Rest before and after confinement.¹

To some extent the amount of rest a mother can have before and after confinement is determined by the time of the year or by the stage of the cotton crop upon which depends the livelihood of the family. If confinement occurs during the plowing and planting time, or while all hands are chopping or picking cotton, it is impossible for a woman to have the amount of rest she would be able to secure at a more opportune season.

Housework is commonly continued up to the date of confinement. Although, generally speaking, ordinary household duties may be pursued with advantage by many pregnant women, the lack of conveniences in rural districts makes the care of the household a real burden. The mother's share of "chores" (such as milking, churning, and taking care of the chickens and garden) and of field work is usually lightened, at least, and often is taken over entirely by other members of the family. A number of mothers—18 white and 49 negro women—in addition to their household duties continued with the usual chores and field work until they were confined, making no change in their toilsome daily program because of the approaching childbirth.

One mother had done a washing the day before her second baby was born; she is a regular field hand and chopped cotton all day, 5 days a week, up to the day before confinement. Another, a mother of five children, continued her housework, field work, and chores up to the date of confinement, and the morning of the day the baby was born picked 45 pounds of cotton and cooked a big dinner for her family of seven. A negro woman worked until that night, hoed potatoes, and had all her crop "right clean." Another, who had always kept on with her work up to the time of confinement, had had seven pregnancies, of which one resulted in stillbirth and five miscarriages (four to six months' term). "I went because I had it to do, but I wasn't able," said a negro mother of six children who continued field work until three days before confinement. Her baby was born in September and her daily work that autumn, in "cotton-picking time," included getting up before dawn to cook breakfast and dinner together (dinners are taken along to the field), and then a long day in the cotton field, picking cotton from "sun to sun."

It was uncommon to find women doing heavy farm work, and it is probably true that outside work in moderation is good for many pregnant women. Yet continued daily field work, in the glare and intense heat of this lowland country, in addition to housework, may not only add to the discomfort of pregnancy and the danger of confinement, but lessen the mother's ability to produce sound, vigorous children.

¹ See following section on "Mother's Usual Work."

Rest after confinement is equally uncertain, also depending somewhat upon the season of the year. Many of the white mothers reported nine days in bed and 27 were in bed for a longer period. Negro mothers were often up in three to five days; almost three-fifths were out of bed within a week. Housework is resumed soon after the mother is out of bed, chores more gradually. Among the white mothers field work is usually discontinued for the rest of the season. Negro women commonly return to the field in a month's time, leaving the baby at home with the older children, or occasionally taking the baby along to be deposited in a box of rags or on a pile of fertilizer bags at the edge of the field.

Mother's usual work.

Rural women of this section as a rule are burdened with a multitude of duties in the house and on the farm and only rarely have assistants other than the girls of the family. In addition to the cooking, cleaning, scrubbing, washing, ironing, sewing, milking, churning, care of chickens and garden, and canning and preserving the average woman also works side by side with her husband in the field helping to plant, cultivate, and harvest the crop.

Housework must usually be done without the services of hired help; only three of the women visited kept a servant regularly. In fact, indoor help is difficult to secure during the "chopping" season, while in "cotton picking time" it is practically impossible, since the negro women available for domestic service not only earn more money in the cotton field but also prefer field work with its greater opportunity for sociability.

An absence of household conveniences makes housework doubly hard. With the exception of sewing machines there are practically no conveniences for facilitating women's work. The majority of the homes have few of the modern improvements for cooking, which is done usually on a wood stove, with fuel provided from meal to meal.

Washing is commonly done in the open, the wash place consisting of a bench for the tubs and a big iron pot with a fire under it for boiling the clothes. Only six of the mothers visited used washing machines.

Old-fashioned implements are used for churning and butter making. Sweeping often is done with a homemade broom of short bunches of sedge grass for the house, or twigs for the yard, bound together with a hickory withe.

Carrying water is an arduous task. Only one of the homes visited had a pump and sink inside the kitchen, though white families are usually provided with a pump on the porch or within a few feet of the kitchen door. At a number of the homes, however, the water

supply was at some distance from the house, which necessitated a considerable waste of the mother's time and strength.

One-fifth of the white families and over one-third of the negro families carried water over 50 feet; an occasional negro family carried water as far as a quarter of a mile. A number of tenants had no water on their immediate premises and had to carry it from the landlord's well. A mother who carried water something like 200 yards thought it was partly responsible for so weakening her that she lost her twin babies.

Field work, almost always on the "home farm," is general for both white and negro women. Of the 117 white married mothers, 90 had worked in the field before marriage (72 from early childhood) and 82 after marriage, though a number explained that since marriage their field work has been irregular, only occasional help in the busy season. Of the 89 negro mothers, 87 had done field work before marriage (74 from early childhood) and 85 after marriage. A grandmother, speaking for her married daughter insisted that "she picked cotton when she was 5 years old, she'd fill her little sack and empty it into mine."

Other forms of gainful work are uncommon among the women of this section. Before marriage some few had taught school or worked in the cotton mills; after marriage some had helped in their husbands' stores; a few negro women had hired out for domestic service.

INFANT CARE.

Infant mortality.

By "infant mortality" is meant the deaths of infants under 1 year of age. An "infant mortality rate" as computed in the infant mortality studies of the Children's Bureau is the number of infants out of each 1,000 born alive within a given period who die during their first year of life. In this rural township, of the 520 white children live-born over one year before the agent's visit, 25 (1 child in 21) had died before reaching their first birthday, an infant mortality rate of 48.1; of the 528 live-born negro children, 34 (1 in 16) had died at less than one year, an infant mortality rate of 64.4.¹ The infant mortality rates for children of both white and negro mothers in this rural community are considerably lower, i. e., more favorable, than any found in the cities and towns which have been studied by the Children's Bureau; also much lower than in the mountain county which has a rate of 80.4.

¹Computed on the basis of all children born alive at least one year previous to the agent's visit, it is obvious that children only a few months old at the time of the agent's visit could not be included, since some of these may have died afterwards before they were a year old.

A survey of a rural county of Kansas¹ shows a rate of 55 per 1,000, computed upon the same basis as the North Carolina rate. A comparison of the findings of these rural surveys with the findings of infant mortality studies in cities and towns, tends to confirm the impression that rural conditions are distinctly more favorable than urban conditions to infant life.

AGE AT DEATH AND MOTHER'S STATEMENT OF CAUSE OF DEATH.—The information obtained from the mothers as to the cause of the deaths of their babies was meager and unsatisfactory. Of the 25 white infant deaths, in 9 cases the mother did not know what had been the cause; of the 16 remaining, 7 had died of gastro-intestinal disorders, according to the mother, 4 of respiratory diseases, 2 were defective at birth, 1 had had an abscess of the liver, 1 measles, and 1 kidney trouble. Of the 34 negro infant deaths, in 13 cases the mother had not known the cause of death; of the 21 remaining, 6 had died of gastro-intestinal diseases, 4 of respiratory diseases, and 5 because of prematurity or congenital defect; the mother's ill health and mother's overwork were said to have caused the loss of 2, 2 were smothered in bed, 1 had fallen and broken its arm and leg, and 1 died during birth.

In this community, as in the cities and towns previously studied by the Children's Bureau, the greatest infant loss occurred within the early months of life. Of the 25 white infant deaths 16 had occurred within the first three months (9 within the first two weeks), 3 were between 3 and 6 months old, and 6 were over 6 months old at the time of death. The proportion of white infant deaths in these age groups approximates the average for the death registration area of the United States. Among the negroes there is a somewhat higher proportion of deaths in early infancy, i. e., within the first three months (24 out of 34, or 71 per cent), than the average for the death registration area (63 per cent).² Of the 34 negro infant deaths 24 occurred within the first three months (17 during the first two weeks), 3 were between 3 and 6 months old, and 7 from 6 months to 1 year.

STILLBIRTHS AND MISCARRIAGES.—Among the white mothers, 3.9 per cent of their pregnancies had resulted in stillborn children and 3.6 per cent in miscarriage. Negro mothers had lost 3.5 per cent of their children through stillbirths and 5.4 per cent by miscarriage. The percentage of stillborn children, both white and negro, in this community is considerably larger than in the rural county of Kansas studied by the Children's Bureau where only 1.8 per cent of the issues were stillbirths.³ The white mothers of this community had

¹ Moore, Elizabeth: *Maternity and Infant Care in a Rural County in Kansas*, p. 41. U. S. Children's Bureau Publication No. 26, Rural Child Welfare Series No. 1. Washington, 1917.

² Mortality Statistics, 1915, p. 645. U. S. Bureau of the Census, Washington, 1917.

³ Moore, Elizabeth: *Maternity and Infant Care in a Rural County in Kansas*, p. 30. U. S. Children's Bureau Publication No. 26, Rural Child Welfare Series No. 1. Washington, 1917.

lost a slightly smaller proportion of children by miscarriages (3.6 per cent) than the mothers of the Kansas county (5 per cent). The number of negro miscarriages (5.4 per cent), however, was approximately the same as in Kansas.

A comparison with the rates of stillbirths and miscarriages found in the Children's Bureau inquiries in cities and towns¹ shows a slightly higher stillbirth rate for both white and negro mothers of this North Carolina township than was common in the cities and towns, and a slightly lower rate of miscarriages among the white mothers, but a somewhat higher rate among negro mothers.

Infant feeding.²

Methods of infant feeding in this community are largely a matter of tradition, the mothers depending upon the advice of neighbors and friends, since in the majority of cases it is impossible for the distant physician to supervise the feeding of his rural patients.

Breast feeding is universal. The rural mother as a rule is well able to nurse her child. Of the 78 white babies for whom feeding records were secured all were breast fed through the first 5 months; with the exception of 2 babies weaned, 1 at 6 months and 1 at 9 months, all were nursed during the entire first year. Of the 86 negro babies, all were breast fed during their first 2 months, all but 8 during their entire first year. Nursing is usually continued for 18 months, often until the child is 20 or 24 months old, or until another pregnancy interrupts lactation. Of the 35 white babies that had been weaned at the time the mother was visited, only 3 were 12 months or less at the time of weaning, 16 were between 13 and 18 months, 12 between 19 and 24 months, and 4 were 25 months or over. Forty negro babies had been weaned, 12 at 12 months or less; 16 at 13 to 18 months, inclusive; and 11 at 19 to 24 months (in 1 case the age of weaning was not known).

It was customary, however, among the majority of mothers, in addition to the breast milk, to feed their babies indiscriminately, in accordance with a popular supposition that a taste of everything the mother eats will protect him from colic. Seven white babies and 19 negro babies were given food in addition to breast milk from their

¹ Per cent of all issues resulting in stillbirth or miscarriage in cities and towns so far studied by the Children's Bureau have been as follows:

City or town.	Stillbirths.	Miscarriages.	City or town.	Stillbirths.	Miscarriages.
Johnstown, Pa.	4.5	3.3	Saginaw, Mich.	3.9	4.4
Manchester, N. H.	2.9	4.6	Akron, Ohio.	3.0	4.2
Waterbury, Conn.	3.4	6.8	Brockton, Mass.	2.6	5.3
New Bedford, Mass.	2.9	4.4			

² Feeding records covering the first year of the baby's life were obtained for the mother's last child under 5 years, a total of 78 records for white babies and 86 for negro babies.

first month of life. By the beginning of the fourth month 23 white and 45 negro babies were being fed. One mother fed her baby at 2 months because he was "heartly and wanted to eat." Another gave her babies a taste of almost everything she ate, especially in the spring, to prevent their having colic with every new vegetable. A negro mother, who reported that her baby had had nothing but the breast for the first seven months, upon reconsidering "reckoned he had had watermelon and the other children might have given him peaches and apples." Some few were fed "chewed rations" until the teeth arrived, i. e., the father or mother chewed the baby's food before giving it to him. "Sugar tits" of moistened bread, sugar, and a little butter, lard, or fat meat, tied in an old thin cloth, are common pacifiers. Fat meat is sometimes given as a purgative and, among the negroes, is a common substitute for oil. It is customary to give catnip tea until the mother's milk has come, often continuing the tea during the first few weeks.

PHYSICAL CONDITION OF CHILDREN FROM 1 TO 15 YEARS OF AGE.

General health.

The so-called "children's diseases"—measles, mumps, whooping cough, and chicken pox—have been widespread in this locality. Of other diseases, the most commonly reported were dysentery and stomach disorders of various sorts, pneumonia, malaria, "sore eyes," hookworm, tonsilitis, "worms," smallpox, and typhoid fever. Some half a dozen children among those visited have been considered by their families to be mentally defective.

It was shown a few years ago that the county was heavily infected with hookworm disease. During a campaign against hookworm, carried on in the county in 1911 by the Rockefeller Sanitary Commission (now the International Health Board of the Rockefeller Foundation) in cooperation with the State board of health, 3,301 persons were examined, of whom 1,839, or 55.7 per cent, were pronounced to be infected with hookworm. The campaign was apparently confined to the examination and treatment of individuals and did not include the erection of sanitary privies throughout the county which has been the important feature of the more recent hookworm campaigns in other counties of the State.

The International Health Board, in its report for 1915, describes the effect upon the population of a prevalence of hookworm disease:

In no country is the death rate ascribed directly to hookworm disease particularly high; this disease is never spectacular, like yellow fever or plague or pernicious malaria. It is the greater menace because it works subtly. Acute diseases sometimes tend to strengthen the race by killing off the weak; but hookworm disease working so insidiously as frequently to escape the attention even of its victims tends to weaken the race by sapping its vitality. Persons harboring this infection are more susceptible to

such diseases as malaria, typhoid fever, pneumonia, and tuberculosis, which prey upon lowered vitality. But even more important than this indirect contribution to the death roll are the cumulative results—physical, intellectual, economic, and moral—which are handed down from generation to generation through long periods of time.¹

Within recent years the county has been covered by a typhoid campaign also, during which free vaccination for typhoid was available for all persons of the county, through the cooperation of the State board of health with local authorities. In the course of the Children's Bureau survey, an interesting story was told of the disastrous results that had followed the failure of one family to avail themselves of vaccination. The mother wanted them all to drive over to the schoolhouse and have it done, but the father thought it was not worth while; he had heard it made one sick and did not wish to risk losing time from work. In the midst of "cotton-picking time" the 15-year-old boy developed a bad case of typhoid; for weeks the mother and oldest brother had to give their entire attention to nursing the sick boy. This case of typhoid cost the family \$50 for help hired to replace these three cotton pickers of the family and, in addition, a doctor's bill of \$50.

Mortality of children from 1 to 15 years of age.

In the 127 white families visited there had been 17 deaths of children 1 to 5 years of age. According to the mothers' statements, 6 had occurred from intestinal disorders; 2 from meningitis; 2 from chills and fever; 1 each from pneumonia, measles, Bright's disease, "spinal disease," "stomachitis," and membranous croup; and in 1 case the cause was unknown. Between the ages of 6 and 15 only 1 death had occurred, and in this case the cause was not known.

Among the 129 negro families 25 children had died between the ages of 1 and 5 years—7 of intestinal disorders; 4 of respiratory diseases; 4 had been burned to death; 1 drowned; 1 strangled; 2 had died of typhoid; 1 each of scarlet fever, sunstroke, thersh, eczema, and congenital defects; and in one case the cause of death was unknown. There had been 5 deaths of negro children between the ages of 6 and 16—2 of tuberculosis, 1 of "worms," 1 had been shot, and 1 burned to death.

A striking proportion of deaths from accident was reported among the negro children—7 out of 25 deaths between the ages of 1 and 5 years and 2 out of 5 between 6 and 16.

Home remedies.

Distance from doctors and drug stores has usually resulted in the extensive use of home remedies and patent medicines. Many families keep a supply of drugs on hand, such as salts, camphor, oil, calomel, turpentine, paregoric, asafetida, and quinine.

¹ The Rockefeller Foundation, International Health Commission, Second Annual Report, 1915, pp. 11, 12.

A thriving business is conducted by a firm which maintains continuously an agent and a two-horse load of patent medicines in this section. Croup and cough "cures," liniments, soothing and teething sirups, remedies for women's diseases and for constipation are part of his stock and have a wide sale among his patrons. The remedies are usually put up in dollar packages with wrappers which make extravagant claims for their virtues.

The State board of health recommended to the legislature of 1917 the passage of a State law regulating the conditions of sales of trademark remedies as follows: (1) "The elimination of secrecy, requiring that the remedy publish its formula on the package," and (2) "a sufficient tax on the various brands of secret remedies on the market of this State to enable the State government to encourage and answer inquiries from the people regarding the action of any drug or combination of drugs."¹ Although the "secret remedies" law failed of passage, two important acts of the 1917 legislature concerning patent remedies provide (1) that the package or label of any drug product shall not contain any statement regarding the curative or therapeutic effect of such article which is not true² (in harmony with the Federal food and drugs act and copied by most of the States in their laws), and (2) that the sale is forbidden and the advertising unlawful of any proprietary medicine purporting to cure certain diseases, for which no cure has been found³—a law in harmony with advanced legislation upon this subject.

Negro mothers, in addition to a liberal patronage of patent medicines, also rely to a large extent upon homemade "teas" of native herbs, which they gather from early spring to late autumn. The majority of babies are given catnip tea from birth. For colds, favorite remedies are teas of pine tops, boneset, horehound, or pennyroyal. Purge grass is thought infallible for constipation. For diarrhea, the dollar weed is given, also sweet-gum leaves, queen's delight, or red raspberry tips; for "female troubles," red shank, slippery elm, burdock, and single or double tansy are in favor.

Diet.

Most of the families visited have gardens, though many, because the poor soil requires much fertilizer and labor, feel that they can not spare the expense or the time for a garden of any considerable size. The average family raises beans, tomatoes, field corn, sweet potatoes, Irish potatoes, cabbage, collards, turnips, okra, and field peas. The garden insures the family sufficient vegetables during the summer months, but for a good part of the year the diet is much more limited.

¹ Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, p. 58.

² Acts of 1907, ch. 368, as amended by Acts of 1917, ch. 19.

³ Acts of 1917, ch. 27.

Few families conserve any variety of vegetables, usually depending upon sweet and Irish potatoes, collards, and turnips for winter use.

Although apples, peaches, plums, and cherries are scarce, blackberries, huckleberries, and scuppernon grapes are fine and plentiful. The more thrifty and enterprising housewives can, dry, and otherwise preserve fruit for winter use. The migratory life of the tenant family, however, offers small incentive to provide for the morrow.

Little stock is kept in this section, and a number of families are without milk and butter. The county makes but 3 pounds of butter to each person per year.¹ Poultry also is considerably below the usual quota in rural districts, and eggs are scarce. Few families keep sheep, though all have hogs, pork being almost the sole dependence for meat.

Corn is a staple article of diet, whether as "roasting ears," hominy grits, or ground into meal. Molasses, homemade from sorghum cane, is widely used for "sweetening" during the winter season.

The preparation of food, from the point of view of the needs of growing children, leaves much to be desired. This, of course, is not true of the more prosperous and intelligent families, but the children of the small tenant are given much of pork, fried food, and half-cooked starch in the form of hominy and of corn and wheat bread. This heavy diet of partly cooked starches, with an excess of fat and a deficiency of fruits and green vegetables (except in the summer), together with the custom of indulging children in the most undesirable habits of eating whenever and whatever they please, is doubtless a factor in the indigestion, which, according to the mothers, is one of their chief difficulties with the children. In many homes the child is allowed to go to the "safe" for leftovers whenever he can think of nothing else to do, with the result that he never knows the wholesome urge of a good healthy appetite, and his stomach knows no rest.

The rural mother has been at a great disadvantage: because of her remoteness and infrequent intercourse with her neighbors, she has had no standard of comparison by which to measure her methods and achievements. Now, however, the old order is rapidly changing, and every year brings her into closer touch with better and more modern methods of home economics and household management. The women of this township now have at their disposal the services of a county home demonstration agent, and are within a reasonable distance of community fairs, county fairs, and farmers' institutes, where lectures, demonstrations, and exhibits have been arranged for their benefit.

¹ Thirteenth Census of the United States, 1910, Vol. VII, Agriculture.

EDUCATION.

School law.

According to the school law, as amended in 1917, a North Carolina child must be in school between the ages of 8 and 14,¹ for four months of the school term each year. The 14-year age limit is a recent provision—a part of the important educational program enacted by the last session of the legislature and effective beginning September 1, 1917.² At the time of the inquiry, school attendance was compulsory only for children of 8, 9, 10, and 11 years. The law makes an exception in cases where the child is so physically or mentally handicapped as to make attendance impracticable; also where he lives $2\frac{1}{2}$ miles or more from the schoolhouse; or where, because of extreme poverty, his services are necessary to his parents, or they are unable to provide him with suitable clothing or necessary books.³ Since even under the terms of the new law, the child is assured of only 24 months schooling in preparation for his life work, the law is still obviously inadequate in its scope. Moreover, in this rural section at least, the "extreme poverty" exemption clause is liberally interpreted; and children are frequently kept at home to help on the farm during the busy seasons.

School term and attendance.

At the time of this inquiry, the school term in the neighborhoods visited covered five months, November to March, inclusive, with the exception of the largest school, which was in session six months (made possible by special local taxation). Not only is the term short, but attendance is irregular, the yearly average varying from 50 to 85 per cent of the total enrollment. Fewer children attend in November (cotton picking season) than at any other time during the term. In March, also, many of the older boys are kept at home to help with the spring plowing.

The majority of homes visited are within a reasonable distance of the school. Thirteen white and 27 negro families, however, with children of school age have no school nearer than $2\frac{1}{2}$ miles, and, according to the school law, no child living that distance or farther is required to attend school.³

Although the majority of the children start to school at 6 years, over one-fourth had not been sent until they were 7 years or older, usually because the family lived at a distance from the school or the child was not as strong as the others. Occasionally a 5-year-old was sent along with the older children, not to have any share in the school work but "just to be going," as the mother said. Nineteen of the 257 white children of school age, and about the same propor-

¹ In Mitchell County school attendance between the ages of 8 and 15, and in Polk County between the ages of 7 and 15.

² Acts of 1913, ch. 173, sec. 1, as amended by Acts of 1917, ch. 208.

³ Acts of 1913, ch. 173, sec. 2.

tion of negro children, had never attended school at all. One mother explained that her 9-year-old boy would have $3\frac{1}{2}$ miles to travel to school—7 miles the round trip—the winters are hard and he has so many colds that she has not sent him.

It was gratifying to find so many of the older children of 15 to 20 years still in school, at least for the two or three winter months, ambitious to supplement in this way their inadequate schooling as young children. A child is usually well grown before he leaves school finally and as a rule has some good reason for leaving—he is needed on the farm or in the house, or he marries or goes off to work. A few were "tired of school," one did not like the teacher, one was "slow at books and ashamed to go," and one had left to join the Army. Poverty also is a frequent factor in poor attendance, particularly among the negro families. A negro mother lamented that her children could have gone more this year if they had had good shoes.

The short school term, together with irregular attendance, make it difficult for the child to progress rapidly in school. Ability to read and write is a minimum to be expected from him as a result of his contact with school; many, however, fail to achieve even this claim to education. In the families visited, approximately 1 white child out of 10, 1 negro child out of 3, between the ages of 10 and 20 years, had not yet learned to read and write.

Attitude of parents toward education.

As a rule the parents were interested in their children's school progress, though few ever visited the school or consulted the teacher. A proud mother told of her 10-year-old prize speller, who had missed only one word all last winter and not one the year before. One mother, who complained that the teacher let the children loiter and fight on the way home, was asked if she ever visited the school to talk things over with the teacher and admitted that she had never seen any one of their teachers. Although one out of six of the white mothers and one out of three of the negro mothers visited were themselves illiterate, the attitude often attributed to illiterate parents, that "what was good enough for us is good enough for our children," was not encountered in this community. On the contrary, it is often a consciousness of their own defective education that stimulates the parents to see to it that their children have better opportunities. A negro woman, who had attended school only four weeks in her whole life, explained that for that reason she is "pushing" the children—she wants them to get some "learning."

School facilities.

The township provides five schools for white children and four negro schools.

WHITE SCHOOLS.—The largest white school is a well-equipped, three-teacher school, with a course of study through the tenth grade; another is a two-room, two-teacher school. These two school districts have voted the special school tax (30 cents on the hundred dollars valuation of property and 90 cents on the poll tax), which is placed to the credit of the school district voting it. This amount may be used for various purposes, such as lengthening the school term, increasing the teacher's salary, building a new school, or getting an additional teacher. The three other white schools are old-fashioned, one-room, one-teacher schools, with a total enrollment of less than 30 children to the school. The township seems to offer an excellent opportunity for a consolidation of rural schools, in accordance with the newer standards for rural educational facilities.

County schools are supported almost entirely by county taxes, with the exception of limited grants from the meager State school fund and a special district school tax if agreed upon by a majority vote of the qualified voters of the district. The Progressive Farmer¹ urges the necessity for increased school funds:

The first thing and biggest thing we are going to say in this issue of The Progressive Farmer is this—that our folks in North Carolina, South Carolina, Virginia, and Georgia ought to absolutely double their school taxes during the coming year.

* * * * *

It is no use to say we can't afford it. With cotton at 20 to 25 cents a pound and tobacco and peanuts selling at corresponding figures, it is folly to say that we can't do more for our schools than we did when cotton was 6 to 10 cents and other crop prices in keeping with these. And we ought to be ashamed of ourselves if we don't do more. The time has come when any man ought to be ashamed when he leaves home if he can't say he lives in a local tax school district—and one in which the tax is adequate.

* * * * *

Look at the facts. The North Atlantic States spend \$50.55 per year on schools per child; the South Atlantic States \$18.91—not 40 per cent as much. The North Central States spend \$44.15 per child; the South Central States \$19.01—not half as much. North Dakota, a rural State, is spending \$64 a year per child; wild Idaho \$55, and even Mormon Utah \$52, while Virginia spends \$19, North Carolina only \$12, South Carolina only \$11, and Georgia \$13. Nor can we say we are doing as well in proportion to wealth, for while North Dakota spends on schools 44 cents a year for each \$100 of her wealth, Idaho 49, and Utah 51, Virginia and North Carolina spend only 28 cents a year per \$100 of wealth, South Carolina 27 cents, and Georgia 29.

The Carolinas, Virginia, and Georgia therefore might double the amount they are spending for schools and even then not spend as much as some other States are spending.

The rural-school teacher of this section is poorly paid; five of the eight teachers of the township are paid from \$45 to \$75 per month, the other three only \$40 per month for the five-month term—a meager yearly salary of \$200. The average salary for the eight teachers of the township (\$286) is, however, somewhat above the

¹ The Progressive Farmer, Saturday, June 30, 1917.

low State average of \$243 for teachers in the public schools, but is scarcely more than half the average (\$525) for the United States.¹

Buildings and equipment.—All the school buildings are frame; three are in good repair, painted, and attractive, while two are unpainted and uninviting.

Each schoolhouse stands in a grove of trees, in most instances young oaks, but no attempt has been made in any case to beautify the grounds with shrubbery or flowers. All have plenty of play space, and the largest school is provided with a basket-ball court.

The larger schools are plastered and wainscoted, the one-teacher schools merely ceiled. All are heated by unjacketed wood stoves. The two larger schools are provided with cloakrooms; in the one-room schools the children hang their wraps on nails or hooks on the walls of the classroom. All the schools have new desks and chairs of graduated size, each accommodating two children, except at one school, which has individual seats. Blackboard space is inadequate—in one school only 12 feet—partly black cardboard and partly pine boards painted black. Aside from desks, chairs, and blackboards, little else in the way of equipment is furnished by the school authorities, and anything further must be added by the teacher or by interested school patrons. Two schools have pianos, only one has a dictionary, and three have no maps—which, as may be imagined, greatly hampers the teaching of geography. The children provide their own schoolbooks, paper, and pencils. An interested teacher of a one-teacher school had herself supplied her own primary, history, and geography “helps,” desk copies of all textbooks used, material for county commencement exhibits, drawing paper, crayons, pencils when the children ran short, and had induced the local “community club” to contribute copy books.

School libraries at each of the schools are a source of enjoyment to the children during the school term.

Sanitation.—Drinking water is obtained from drilled wells on the school premises, except for one school, which used a near-by spring. There is usually a gourd or cup at the pump, but the teachers are making an effort to have at least each family of children bring a cup, which is a step toward the individual drinking cup.

Toilet facilities are inexcusably poor. Two schools have no toilet whatever, two have a toilet for girls only, while the largest has one for boys and one for girls.

School activities.—At some of the schools the children are eager and interested members of school clubs. An Audubon society is responsible for an enthusiasm for birds among small boys of that neighborhood; 12 bird houses were made by the boys of this school last year, exhibited at the county fair, and afterwards set up on the

¹ Compiled from Report of Commissioner of Education for year ending June 30, 1916, Vol. II, p. 30.

home farms. One mother whose boy has learned to know the birds and their notes confessed that it has made her notice the birds, too. A canning club, pig club, and corn club have headquarters at the schools and a remote one-teacher school has a "Robert E. Lee Society" which meets every Friday afternoon for debates or literary programs and has been found an excellent means of getting parents to visit the school. All the schools were well represented at the county commencement held in March at the county seat; a one-teacher school of this township was the winner of several prizes—for the best all around one-teacher school exhibit, for the best seventh-grade penmanship, for the best composition on the necessity for the protection of birds, and for the best beaten biscuit.

The township schools have not been used to any great extent for community purposes. Farmers' institutes are held yearly at the largest school, and the winter before the survey a "moonlight" school was also held there. Two other schoolhouses are used for meetings of the local community clubs, and at another a union Sunday school has its services on Sunday afternoons; occasionally political meetings also are held at the schools. For the most part the people have not yet accustomed themselves to the idea of a school as a social and community center, and the schoolhouse commonly stands idle and unused for over half the year.

NEGRO SCHOOLS.—The four negro schools of the township, like the average rural schools for negroes in the South, are poor.

The negro child of the township goes to school in a one-room, unpainted schoolhouse, and sits with several children in a row on a long homemade bench with no back except a rail and no place to hold his books and papers except on his lap. He "does his sums" on a homemade blackboard of three boards nailed together and painted black, and recites his lessons to a teacher (colored) who for five months draws a salary of \$25 per month. His school term lasts 100 days, of which he misses no small share to help his father with the crop.

In two of the negro schools the course does not extend beyond the fourth grade; one has six grades, and the largest negro school of the township is of a better type, with classes up to the seventh grade and a teacher who draws a salary of \$30 per month. At the negro county commencement this school was the winner of four prizes—more than any other negro school of the county.

Enrollment in the four negro schools varies from 44 to 96. All the teachers are overburdened by the number of pupils. It is plain one teacher's time divided among 96 children in seven grades can give each child only the merest smattering.

All the negro schools have undertaken industrial work of some description. The girls learn darning, buttonhole making, hemming, and embroidery. Lacking sewing machines at the school, the children cut, baste, and fit the garments there and take them home to sew. One teacher has attempted a weekly cooking demonstration at homes in the neighborhood. The boys make baskets and mats of corn shucks, mats of raveled tow sacks (in which cotton seed and fertilizer come), chair seats of splints, and maps which they color with crayons.

Two negro schools are using water from good drilled wells on the schoolhouse grounds, and another carries water from a drilled well at the nearest farm, 300 yards distant. One, however, still draws water from a dug well on the school premises—a shallow well only 12 feet below the surface, obviously subject to pollution by seepage, and also open and unprotected from dust and dirt. None of the four negro schools is provided with toilet facilities of any description.

HIGH SCHOOLS.—Besides the district schools the county public-school system provides at the county seat a good, well-equipped high school for white children and a normal school for colored. The colored "normal" is both boarding and day school and has a dormitory where, for a small sum, girls from the country round about may live during the school term, furnishing their own supplies and doing their own cooking and housework.

FARM-LIFE SCHOOLS.—There has been some discussion of a "farm-life" school for this county. This type of school, offering a course of study better adapted to rural conditions than the standardized school of the three R's, has proved its worth in other parts of the State and would be a distinct asset to this county.

The purpose of the farm-life school is to give to the boys and girls such preparation as the county public high schools give, and in addition to that to give the boys training in agricultural pursuits and farm life, and to prepare the girls for home making and home keeping.¹

The course of study in a farm-life school (the State now has 21 such schools) includes such rural subjects as the following: Botany, agriculture, field crops, vegetable gardening, fruit culture, farm animals, feeding live stock, dairying, poultry raising, soils and fertilizer, rural economics, and farm equipment.

MOONLIGHT SCHOOLS.—This neighborhood has had a share in the State's campaign against illiteracy, holding a "moonlight school" at the largest school of the township. The "moonlight school," which originated in Kentucky and has been found effective there and in other States, is a night school for adult illiterates, conducted for short periods, usually at the public school by volunteer teachers, preferably on moonlight nights for the greater convenience of the

¹ Acts of 1911, ch. 84.

country people. The State department of public instruction is hoping by this means to reduce materially the illiteracy of white adults. North Carolina had in 1910 a higher rate of illiteracy (14 per cent of the male adult native white population)¹ than any other State.

CHILDREN'S FARM AND OTHER WORK.²

The effect of farm work on the development of the child is a practically unexplored field. It has probably been too often assumed, however, that a child's work on the farm is limited to morning and evening chores—all light work, with no tax on strength or endurance, and requiring only two or three hours a day. In this study the attempt was made to discover for this one rural township of the South the various farm occupations—both field work and chores—performed by children, the health hazards involved in each, ages and sex of the children, their working hours and their wages where the farm work is away from home.

A white family, living on a farm of 110 acres, with 30 acres in cultivation, consists of father, mother, and six children—two boys of 15 and 13, a girl of 10, boy of 8, girl of 6, and a 3-year-old baby. The two older boys plow, help set out the garden, hoe corn, strip fodder, gather corn, and chop and pick cotton; these boys also help take care of the stock and feed the hogs. The 10-year-old girl and 8-year-old boy drop corn and peas, hoe corn, chop and pick cotton, and pick peas; the little girl also helps her mother with the housework, and the boy takes the cow to the pasture and back and carries wood and water. The 6-year-old girl feeds the chickens, brings in stove wood, and helps irregularly with the cotton picking.

Chores.

Every farm child has a variety of chores to perform around the house and at the barn—the boys feed the mule, "tote" water, feed the chickens and hogs, chop wood and bring it in, "carry" the cow back and forth to the pasture, and weed the garden; the girls, besides their share of the housework, help with milking, churning, canning, and preserving. All these various odd jobs have been considered chores, as distinguished from regular field work with the crops.

Field work.

It was found that two-thirds of the white children and three-fourths of the negro children from 5 to 15 years old, in addition to chores and odd jobs, helped in the fields, cultivating and harvesting the crops. Children of all ages were at work in the fields; 51 were children under 8 (22 white and 29 negro); 120, of whom 47 were white and 73 negro children, were under 10 years.

¹ Thirteenth Census of the United States, 1910, Vol. I, Population, p. 1258.

² The discussion of children's farm and other work is limited in this inquiry to children from 5 to 15 years, inclusive, living at home at the time of the agent's visit, i. e., 219 white and 270 negro children, of whom 144 white children (88 boys and 56 girls) and 204 negro children (103 boys and 101 girls) worked in the fields.

Cotton is the leading crop, and in the cotton field a large proportion of the labor is performed by children of various ages, from the well-grown boy of 15 to the toddler of 5 or 6, who work along with the rest of the family in cotton-picking time.

Plowing, planting the cotton crop, and putting out fertilizer is usually considered a man's work, though sometimes done by the older boys. Thirty-eight white boys 9 to 15 years old and 53 negro children from 7 to 15 (51 boys and 2 girls) had helped with the plowing, using a one-horse plow. Cotton is planted with a "cotton planter" drawn by one mule. The boy's work consists in driving the mule and keeping to the top of the ridge—light work, for the soil has been plowed before. Some judgment and experience is required to manage the animal, keep him in a straight line, and hold the planter to the top of the ridge. Fertilizer is sometimes scattered by hand, but usually put out with a distributor drawn by one mule—light work that can be done by any boy who can plow.

The next process in the cotton crop is "chopping" the cotton, i. e., thinning it and weeding out the grass between the plants with a hoe (the grass between the rows is plowed under). On the first round the plants are "chopped out," leaving two stalks; on the second round only single plants are left, 12 to 15 inches apart. Numbers of children, of both sexes and all ages from 5 to 15 years, help with the chopping; for it requires little strength and no particular skill, except on the first round when there is danger of injuring the young plants. It is, however, very fatiguing in the hot sun of midsummer; and, because of the monotony of keeping the same position, the shoulders and arms ache from the muscular exertion, and the hands become cramped from holding the hoe. The chances are that any considerable amount of this sort of work is too severe for a young child. One hundred and two white children and 147 negro children had chopped cotton during the summer of the inquiry.

Cotton picking is the work of the entire family. One mother, when she puts "one at it," puts "them all at it." One hundred and forty-one white children and 204 negro children, of both sexes and all ages from 5 to 15 years, picked cotton. Many families take all the children to the field, even, as has been said, depositing the baby in a box under the trees at the end of the row. The cotton picker walks up and down between the rows, stooping over to pick the cotton and tossing it into a sack worn over the shoulder; when filled, the sack is emptied into a sheet spread out on the ground at the end of the row. Although cotton picking is light work requiring little strength, it has its bad features when the age of the children in the cotton fields is considered. There is exposure to sun and heat in the early part of the season; fatigue, due to long hours, monotony, and the stooping posture; and no small muscular strain from carrying

the cotton—as much as 10, 15, or 20 pounds accumulates in the sack before it is emptied into the sheet. The pickers are also under some nervous strain, often racing one another to see who can pick the most in a day. Where they are working out for some one else, the pay is at piece rates—50 cents for every 100 pounds picked—which encourages speeding up.

Corn is usually planted with a planter drawn by one mule; in this case only the older boys who are “plow hands” would be called upon to help. Sometimes the old-fashioned method of “dropping” by hand is followed, and this is often done by the younger children. Hoeing corn is about the same process as “chopping” cotton and is done by children of the same ages.

Pulling or “stripping” fodder is considered harder work than hoeing corn and cotton, or picking cotton. Twenty-four white children and 52 negro children—boys and girls from 6 to 15 years of age—pulled fodder. The blades of the fodder are stripped from the corn-stalks, tied in bunches to the stalks, and left to dry. It is doubtful whether any child who is not fairly well-grown should have this sort of work to do, since reaching the highest blades necessitates considerable muscular strain.

In the tobacco crop, as with cotton, children can be used at almost every step of the process. The plants are set out by hand, at intervals of about 18 inches. This is done by both boys and girls and is comparatively light work. The stooping posture would be trying if kept up for any length of time, but in two or three days a large crop can be set out.

A child of 8 or 9 can “top” tobacco; i. e., pinch off the small top leaves; he needs only to know how to count in order that he may leave the same number of leaves on all the plants. A week or so later the new sprouts are broken off; this is called “sprouting” or “priming.” Young children go from plant to plant also, picking off the bugs.

Children can also “strip” tobacco, though some judgment is required for this; the large lower leaves are stripped from the plant, and care must be taken to gather only perfect leaves and to avoid breaking or crushing them. The next step is tying the leaves together in bunches of five or six, ready for curing—simple work and done by young children. Only the older boys and grown men can attend to the curing, which is a tedious process requiring judgment and experience.

Children under 16 have a share in various minor farm activities also, helping with the crops of peas, beans, and sweet potatoes, helping in the garden, and picking fruit and berries.

Working hours.

The hours of children regularly at work in the field vary, not only in the different families but also according to the season of the year. In spring and summer many work from "sun to sun"; others start to the field in the morning when the dew has dried, and work until about an hour before sunset. No work is done in the heat of the day; i. e., from 11 to 1 or from 12 to 2, unless the family is "pushed" with the crop.

In cotton-picking time the working day is from 7 or earlier until sundown with almost no time off for dinner; many families take their dinners to the field and eat as they go up and down the rows. "Some mornings the sun is an hour high and some it's not up yet before we're in the field," said one mother. One negro mother rouses her family at 4 o'clock; she was "raised that way"; her father and mother always ate their breakfast by candle light.

Wages when at work away from home.

Although most of the children work only on their own home farm, a number work out for the neighbors also a few odd days when their labor can be spared from their own crop. Chopping cotton is paid for by the day, girls between 12 and 15 making 40 cents a day and boys 50 cents. A 10-year-old boy was getting 40 cents and a boy of 8 years, 20 cents. Picking cotton is paid at piece rates—50 cents per 100 pounds—which encourages speeding up and accounts for a vast pride in the amount each child can pick. Children between 12 and 15 years of age pick from 125 to 200 pounds a day.

For the children to help with the crop is such a customary procedure that it is accepted as a matter of course. From instincts of thrift and industry, most parents wish their children to learn to work. It is by no means always a question of poverty, for children of well-to-do farmers are to be found in the field as well as those of poor tenants. A reasonable amount of farm work can hardly be injurious to the health of a sturdy, well-grown child, and early training in habits of industry will be of value to him later in life, yet there can be no doubt that interruption of the child's schooling in order to have him help with the crop seriously handicaps him. This can not be justified even in cases of poverty. Moreover, very young children should not be called upon to perform regular daily field labor with its accompaniment of long hours, exposure to the heat of the sun, monotony, and fatigue.

RECREATION AND SOCIAL LIFE.

Recreation, community interests, and the social aspects of country life are rather more developed in this township than in the average rural community where wholesome means of relaxation and diversion are too often lacking.

White families.

During the winter, social intercourse is largely confined to church-going, an occasional school entertainment, and now and then a visit to town on Saturday afternoons. In August, after the cotton is "made" (bolls formed and further cultivation impossible), there is leisure, before cotton picking, for visiting, entertaining, ice-cream suppers, picnics, and swimming parties at the picturesque mill ponds. A community club picnic has been the means of bringing together two or three neighborhoods every August. Speakers are invited, and an exhibit of home products is arranged, with prizes offered for the best bread, preserves, cake, flowers, and other home products. After a picnic dinner, athletic contests and a canning club demonstration occupy the afternoon.

Three church denominations are represented in the township, each with preaching services once a month. Two have Sunday school also every Sunday afternoon. Church rivalry—occasionally a source of discord in a small community—is remarkably lacking in this township, where the whole neighborhood attends services, ice-cream suppers, and "protracted meetings" at all three churches indiscriminately.

School entertainments of various sorts are given now and then such as Christmas celebrations, box suppers, "concerts," Easter-egg hunts, pound parties, ice-cream suppers, lectures on birds, and an occasional evening with a professional short-story teller. Sometimes admission is charged and the proceeds used to buy extra furnishing or equipment for the school. Thirty dollars, raised by the largest school last year, provided shades and curtains and basket-ball equipment, and paid the expenses of the school's share in "county commencement." A one-teacher school gave an interesting "measuring party" to which every person who came brought "a penny a foot and a penny for each inch over" of his height, and a prize was given to the tallest person present.

Athletic sports, unfortunately, arouse little interest. The township is without a single baseball team or tennis court. "Old Hundred"—something like baseball, but played with a soft ball—is popular among the school children at recess. One school has organized a basket-ball team for boys and one for girls. Swimming in the mill ponds or river is a favorite diversion with the boys, and the older boys and men occasionally fish and hunt for birds, squirrels, rabbits, and foxes. During shad season "fish fries" are popular with the young people.

Among the adults clubs and lodges are numerous, including Masons, Odd Fellows, Woodmen, two "community clubs," and various church societies. Farmers' institutes, held every year at the largest schoolhouse, are well attended by both men and women.

As an up-to-date farmer explained, "you can always get some new ideas; it got me in the notion of sowing clover." A farmers' union was organized a few years ago, but finally failed.

The community clubs (women's organizations under the leadership of the county home demonstration agent) are especially interesting and successful and are proving a definite force for progress in their neighborhoods. The programs at their monthly meetings embrace a variety of topics of interest to rural women, such as bread making, canning vegetables in the home, poultry raising, flower and vegetable gardening, and exterminating flies and mosquitoes.

A girl's "canning club," under the direction of the county home demonstration agent, has had two successful seasons. The girls plant and cultivate a garden of a tenth of an acre and can the products for home and market. Their demonstration of tomato canning is a popular feature of the annual canning club picnic.

A boys' corn club, discontinued the year of the inquiry, had made a good record the previous summer. A 15-year-old prize winner raised 101 bushels the first year and 106 the second, to the acre, which was three times his father's record of 30 to 35 bushels. The boy deep-plowed the soil and used more fertilizer, but his yield was out of all proportion to the additional expense. Another corn-club boy deposits in the bank the proceeds from his acre of corn. His father has him keep books and sell the corn himself, to teach him the business side of farming.

In three-fourths of the white homes of the township some sort of publication is taken regularly. A number of families are getting weekly rural editions of the county papers; several subscribe for semiweekly or triweekly Atlanta papers; and a number of farm papers are taken. Of magazines, however, there is surprising dearth; the so-called "woman's magazine" which so many women are finding helpful, with its pages on household management and the care of children, is seldom found in this section. Literary magazines, also, are rare.

Although the man of the house usually makes at least a monthly trip to town and in the fall of the year goes in almost every week, hauling cotton, going to town seems to be an arduous undertaking for his wife. She accomplishes it only about half a dozen times a year, when shopping is necessary or when the children clamor to be taken in for the county fair or county commencement. Often tenant families, lacking a conveyance, find the trip out of the question.

Migration from country to town is rare in this community. As the boys and girls grow up and marry, practically all settle in the same neighborhood where they were reared. A real contentment with country life is the rule; nearly every family expressed the firm conviction that "the country is the best place to raise children," some

on moral grounds dreading the contaminating influence of town life and some on the grounds of health. One mother wished for better schools for the children, like the town schools, but thought the country the place to rear children, for, as she said, "there's more fresh air, and they can play about and are not as apt to catch contagious diseases as in town." A mother, reared in a mill town, objects to the long hours, hot sun, and loneliness of the farm. "In the mill town you weren't lonely, you could get up with somebody and talk and have a good time," she said. Another, however, was glad to get her little family away from the mill into the country, because it was easier to keep them from bad influences.

Negro families.

The negro is by nature gregarious and revels in social gatherings. Church is the most common meeting place and never lacks a good attendance. "The most we go," said one mother, "is to church, and that is so often that's all we can do." One takes her "little crowd" and goes to preaching, prayer meeting, and Sunday school not at one church but three—Falling Run, Brown Chapel, and Grays Creek all having her loyal support.

The negro school is often the scene of festivities; concerts are popular, with speaking, singing, and dialogues. A small one-teacher school has been provided with window curtains, a curtain to go across the "stage," and a large hanging lamp—all bought with the proceeds from an ice-cream supper given by the teacher.

There had also occurred recently a "farmers' dinner," a dime party, "pan cake tosses," an Easter barbecue, and a Fourth of July entertainment given by the Masons and the Eastern Star. Here and there a mother of a stricter turn of mind voiced her disapproval of anything of the sort, and merely allows her "children to go to church, or to a funeral, or to a sickness, or something like that, and straight home again." More than one negro mother prided herself upon her severity with her children. "I don't let mine stroll about to learn more devilment," one explained. Negro boys were only slightly interested in athletic sports, swimming, fishing, hunting for birds, squirrels, and rabbits; some few played baseball. One negro family rejoices in a cheap little graphophone which the mother had seen advertised in the papers as a good way to keep the boys home at night.

Clubs and "societies" have a fascination for the negro; most of them are organizations paying a benefit in case of sickness or death. "Society" dues, ranging from 10 to 50 cents a month, are a heavy drain on the poverty-stricken negro family, though payment is kept up even at a real sacrifice, spurred by the dread of sickness or of death and pauper burial. Usually a disproportionately larger amount has to be paid into the organization funds than is ever re-

covered by benefits. Moreover, it is a rule of the orders that no benefit can be claimed if there has been any lapse in payment.

Trips to town are rare, for the negro family is usually without a mule and has to "chance it" with the neighbors or sometimes on the landlord's farm wagon.

Two-thirds of the negro homes are without a newspaper or magazine of any sort, though one mother explained that they sometimes see a paper in the neighborhood, and she thinks "it makes your mind feel better" to read the paper. Another family brought out three mail-order catalogues which constituted the family reading matter for the year.

Among the negro families the consensus of opinion seems to be that "for a regular stay place, country is the best"—a sentiment almost universally expressed but with interesting variations: "I'd rather live in my smokehouse than stay in town"; the country "becomes poor folks better"; in the country "you're not all scrouged up."

Some strongly disapprove of town with its "racket and foolishness" and are convinced that it is well for children to be reared far from such contaminating influences. "Country children always have to work; town children just play and learn badness." Another mother thinks her children are better off in the country where it is more open and the children have room for play.

One knows the country is healthier; there are more odors in town; when she goes in on Saturdays she comes home with a sick headache every time. "There's more pure fresh air in the country," said one, "and folks in town have to eat canned goods. The country's free and easy; you can raise anything you need." Food and fuel are a consideration with the negro family. One said: "The country is best for me, where I can get my living better, and when I get cold I can get me a piece of wood and make me a fire and when I get ready to go somewhere I can go without stepping in somebody's door." Another woman likes the country where she can get her own wood and light, and raise her own "something to eat."

On the other hand, some would rather live in town. "We have to work so hard for something to eat out here we don't want it when we get it," was the verdict of one. Another has a first cousin in town and likes town best, for "everything is handy and you can run out and get what you want." Two negro women wanted to move to town because of hard work on the farm; "it's a heap harder with the sun burning your back up" than work in town. A woman who had come from town where it was "right good and lively" complained that "here you hardly see anyone pass only about twice a month." Another thinks, however, "there's no call to get lonesome in the country; there's always plenty of work to do."

It is only recently that public attention has been directed to the recreation and social life of rural communities. Certain nation-wide developments, such as the movement for "the school as social center," indicate a marked interest at present in this phase of rural life. An act of the last session of the legislature of this State "to improve the social and educational conditions in rural communities"¹ is in accord with present-day efforts for more widespread opportunities for wholesome means of entertainment and diversion in rural sections of the country.

¹ See p. 109.



PLATE XVI.—MOUNTAIN COUNTRY OF THE SOUTHERN APPALACHIANS.



PLATE XVII.—FALLS OF THE TUCKASEEGEE ("SUNNING TURTLE").



PLATE XVIII.—A MOUNTAIN GRIST MILL.



PLATE XIX.—A HILLSIDE CORNFIELD.



PLATE XX.—GRINDING SORGHUM CANE FOR MOLASSES.



PLATE XXI.—BAD ROADS—AN OBSTACLE TO PROGRESS.



PLATE XXII.—A LOG CABIN IN THE MOUNTAINS.



PLATE XXIII.—A MORE COMFORTABLE MOUNTAIN FARMHOUSE.



PLATE XXIV.—A MOUNTAIN WASH PLACE.



PLATE XXV.—AT THE SPRING.



PLATE XXVI.—“TOTING” FODDER.



PLATE XXVII.—PLOWING FOR WINTER WHEAT.



PLATE XXVIII.—ON THE WAY TO SCHOOL, CARRYING CORN TO THE MILL.



PLATE XXIX.—FRUIT DRYING IN THE SUN FOR WINTER USE.



PLATE XXX.—STURDY CHILDREN OF A MOUNTAIN SCHOOL.



PLATE XXXI.—A SCHOOL "NINE" WITH HOMEMADE BALL AND BAT.

PART III.

THE MOUNTAIN COUNTY SURVEY.

After consulting with various authorities, and after visiting several counties in the western and mountainous sections of the State, a county was chosen for the survey which is thought to be representative of the highland region from topographical, industrial, and economic points of view. It was decided to make the house-to-house study in three distinctly rural townships with a combined population equal to that of the township chosen in the cotton country. The selected areas, while not representative of the most prosperous farming districts of the mountains, are not, on the other hand, an extreme of isolation, but are thought to be fairly typical, embodying many customs and characteristics of the mountain section. From the fact that in the mountain townships chosen, as well as in the lowland county township, all families having children under 16—and not selected families—were visited, we may infer that this is a fair cross section of the rural child population of the mountain country. The survey covered 231 families and included 697 children under 16.

CHARACTERISTICS OF THE TOWNSHIPS.

The selected townships are at the nearest point 4 miles and at the farthest point 25 miles from the county seat, which is their nearest town. It is a rough and rugged country with mountains ranging from 3,500 to 6,000 feet closing in the district on all sides except along the main highway. The broad, rich valley at the county seat becomes more narrow as the roads wind through the mountains and along the noisy streams. Beautiful natural scenery, blue-misted peaks, laurel-bordered streams, and charming waterfalls are characteristic of the mountain country. The bracing and invigorating climate has become famous for its healthfulness and in near-by counties has attracted large numbers of tourists. The summer is short and a rigorous winter closes in early, contributing doubtless to the hardness of the people. The records of the Weather Bureau over a period of 6 years show a mean temperature of 39° in December to 73° in July and August; a minimum of -9° and a maximum of 96°.

Except for the main highways, the county roads are rough, precipitous, and, in winter, almost impassable.* The result is that the mountain family is economically handicapped by the difficulties of

crop disposal and is also cut off from social life within the neighborhood, and from the stimulating intercourse with other communities which makes for progress.

Even the main highways are impassable to automobiles for any distance from the county seat except during the summer months; other roads can not be traveled by automobiles at any season of the year; many, as they ascend into the hills, becoming trails which none but a sure-footed horse or pedestrain would attempt. Occasionally the road ends abruptly at a swift mountain stream, and only a good guesser can tell whether to ford up stream or down to find its continuation. Often the road follows the creek and is subject to fierce storms and freshets which wash out the road, leaving gaps, ruts, and bowlders to impede travel.

There is no railway communication, the townships lying 4 to 25 miles distant from the railroad, but scant telephone service (none whatever in one of the townships), and only a "star route" delivery of mail along the main road between post offices.

A large and varied stand of timber is giving way before the logging camps and sawmills, which are gradually pushing into the more distant mountains. Dilapidated flumes down the mountain sides mark the passing of this industry, or rather the exhaustion of the supply. However, the leading industry of the section is still the conversion of timber into various products, and "nowhere else in the temperate zone," according to Kephart, "is there such a variety of merchantable timber as in western Carolina and the Tennessee front of the Unaka system."¹ Quantities of bark and wood of chestnut-oak and other oaks, hemlock, pine, etc., are sold to the tanneries at the county seat. "Pins"—strips of wood used by the telegraph and telephone companies to hold insulators to the poles—are also sold in quantities.

Unlimited water power is found in this section, utilized mainly for running sawmills and the many small gristmills along the mountain streams, where a certain proportion of the grain ground is charged as toll. Grinding by water power in the primitive but picturesque mountain mill is a slow process; a favorite story is told of a bird that flew into the bin for food but starved while waiting for the trickling stream of meal.

Small mica mines are scattered through the mountains; they are owned and worked by families or groups of interested men and furnish an occupation for odd times. The output is bought by agents who travel through the country representing electrical, automobile, and stove manufactories.

¹ Kephart, Horace: *Our Southern Highlanders*, p. 54.

The mountain region is said to be a "natural apple-growing section"; also designed by nature for grass growing, cattle raising, dairy farming, and cheese and butter making.¹

Farming, on account of the topography of the land, is fraught with many difficulties. Bad roads and distance from market also constitute real obstacles, with the result that, while nearly every man considers himself a farmer, his farming is on a small scale, his object being to raise sufficient food for his family rather than to produce a crop for market.

The early settlers of the mountain country were Scotch-Irish who, after a sojourn in western Pennsylvania, reached the southern highlands by migrating southward through the mountains. These Scotch-Irish along with some Irish and some Pennsylvania Dutch, as Kephart points out in *Our Southern Highlanders*, "formed the vanguard westward into Kentucky, Tennessee, Missouri, and so onward until there was no longer a West to conquer. Some of their descendants remained behind in the fastnesses of the Alleghenies, the Blue Ridge, and the Unakas and became, in turn, the progenitors of that race which by an absurd pleonasm, is now commonly known as the 'mountain whites,' but properly Southern Highlanders."²

The townships chosen for the inquiry are populated wholly by native white Americans, usually of Scotch-Irish descent. This county, like the lowland county, is considerably more thickly settled than the average rural area of the United States. The population density per square mile is 26.3 as compared with 16.6 for the rural area of the entire United States.³

FINDINGS OF THE SURVEY.

ECONOMIC STATUS OF FAMILIES.

Mountain homes are scattered along the valleys of the streams and follow the "coves" or depressions in the hillside worn by the swift creeks in their courses down the mountain.

Farm acreage.

Little farming is done except on the "bottom land" along the rivers, where the soil is fertile and yields a rich harvest of grain or potatoes, without being fertilized. The mountain sides are cultivated with difficulty; each family has a garden, a hillside of corn, usually also winter wheat, a small plot of tobacco for home use, sorghum for sirup, and ordinarily keeps bees. The average so-called farmer, cultivating only 6 or 7 acres of corn and still less of wheat, usually raises enough foodstuffs to supply his own family, but has no

¹ University of North Carolina Record, No. 140, p. 29.

² Kephart, Horace: *Our Southern Highlanders*, pp. 151, 152.

³ Thirteenth Census of the United States, 1910, Vol. I, Population, p. 55.

crops to offer for sale. His farm occupies from 50 to 100 acres, only from 10 to 25 acres of which is improved land.

Farming methods in the mountains are primitive. Stolid oxen are commonly the beasts of burden, not only because their cost is less than that of horses or mules but also because they need not be stabled and their strength and endurance particularly adapt them to the mountain country.

Land tenure.

Although a few families of "renters" were found, home and farm ownership are the rule, and farm tenancy is relatively small as compared with the cotton country. When a young couple marry they usually move into a little house on the old home place, "make a crop" of their own, and live there rent free until the land is divided at the father's death, and the portion on which they are living finally becomes theirs. Five-sixths of the families in the three townships either owned their own farms or lived with the grandparents on their land. The neighborhoods visited included a few families of "renters," usually on the most remote and undesirable farms, often on the mountain tops with no road other than a sledge trail of mud. Some renters' families make their crop on two-thirds shares, furnishing the stock and two-thirds of the fertilizer and getting two-thirds of the crop; others "get what they make" in return for various improvements or services performed, such as clearing the land, building the new house, tending stock, etc.

Family income.

Farming in the mountain country does not produce a living, and the mountain family must derive its small income from a variety of sources. After the crop is laid by, the farmer and his boys turn their attention to the timberlands, where they peel bark, make pins, and cut acid wood and cord wood to be hauled to "the railroad" and sold for cash. Bark (used for tanning hides at the county-seat factory) is peeled from black, white, and chestnut oaks and from hemlock; and at the time of the survey was sold by the cord at \$11 for the chestnut oak, \$8 and \$9 for black and white, and \$9 for hemlock. Often the farmer hires it hauled to town, paying half what the load brings. Pins for telegraph and telephone poles sell for \$4 per 1,000—extremely poor pay when one considers that it takes a man and a boy two days to make that many pins and two days more to haul them to town. If the farmer hires them hauled, it costs him \$2, one-half the price of the load. Acid wood brings \$5 a load and telegraph poles \$3 apiece. Mica mining adds to the family income in some cases. The mines are small excavations in the hillsides, often manned only by the father and the boys of one family, sometimes with four or five neighbors hired to help at \$1.25 per day. Many of

the men and grown sons go off on what is locally called "public works" during the winter, i. e., at the sawmill, kaolin mine, or lumber camp, where wages at the time of the survey were from \$1.50 to \$2 a day. A few days' farm labor—helping the neighbors after their own crop is made—adds a few dollars more to the credit of the family. Farm work is paid at the rate of \$1 per day for men, 50 cents for women, and 35 cents for children.

A typical family of father, mother, and five children had 15 acres of land in corn; they raised none for sale, in fact had to buy corn for their own use before the season was over. In the course of 12 months they had sold a steer in the "settlement" for \$20 and had traded at the country store about \$15 worth of chickens and eggs, in addition to 3 bushels of beans at \$3 per bushel and 3 bushels of dried fruit at 5 cents a pound; the "men folks" had peeled 5 cords of bark which they hired hauled to town at a profit of \$25 and had made and taken to town 6 loads of "pins" at \$4 a load. The father of the family "went off to public works" for two months in the autumn as a hand at the sawmill, earning \$1.50 per day—a total family cash income from all sources of \$167, which must support a family of seven, covering every expenditure, for a 12-month period.

Even with no expenditure for rent or fuel, and very little for food, the meager cash income of the average mountain family is insufficient for its support in any reasonable degree of comfort. Among the families visited, 3 out of 5 had a net cash income of less than \$200; 4 out of 5 lived on less than \$300; and 9 out of 10 on less than \$500.

Farm expenditures.

Although the farm income is low, farm expenses are also low; commercial fertilizer is rarely used for corn and not to any extent for wheat, the average family buying only 4 or 5 sacks at \$2 a sack for winter wheat. Hired help is negligible, an occasional day's work is "swapped," and sometimes during the busy season the neighbors help for a few days at a time at \$1 per day.

Methods of purchasing.

The average mountain family scorns debt and prides itself on paying cash for everything bought. The long-time accounts, credit systems, crop liens, etc., so common in the cotton country, are non-existent in these neighborhoods. Except for such provisions as soda, snuff, coffee, sugar, soap, and kerosene, usually purchased at the country store, it is customary to send to town for food, clothing, and other supplies to be purchased for cash with the proceeds from the sale of a load of bark or pins. Mail-order purchasing is practically unknown. When something is needed between trips to town, the woman of the house trades a chicken or two at the country store. Eggs, dried fruit, butter, etc., are also disposed of in this way.

Disposal of crops and other produce.

Most of the small amount of farm produce sold is disposed of in the "settlement," i. e., among the neighbors. Corn, potatoes, wheat, sirup, stock, hogs, and sheep are usually marketed in this way. Meats, butter, apples, beans, and cabbages are often hauled to town; sometimes corn and potatoes also. Marketing produce in the rough mountain country is a difficult problem. In some neighborhoods visited the haul to market is from 15 to 25 miles over rough roads—at least an all-day trip and often requiring a day each way. Some few farmers haul their produce to the mill towns of South Carolina—a four to six day trip in "prairie schooners," camping out by the roadside at night.

HOME CONDITIONS.**Housing.**

The average mountain home is picturesque rather than comfortable. With his own hands the early settler built for his family a one-room cabin of rough-hewn logs with a deep-sloping shingled roof; no windows, no porches, a door at each side, and a fireplace of rough field stone chinked with mud. So substantial were these early homes that many are still occupied, still attractive, the weathered logs in perfect harmony with the surrounding hills. The log cabin, however, is no longer built; it has been largely supplanted by two other types of homes—the rough shack of undressed upright boards, and the more comfortable modern clapboarded cottage of at least four rooms, with porches, often an upper story, and usually ceiled. Sometimes the old and new exist side by side, with a clapboarded wing, porches, and windows added to the original log cabin.

The interior of a mountain cabin is often unusually interesting; its walls and rafters darkened from the smoke of the open fire in the rough-stone fireplace; stubby little split-bottomed chairs drawn up before the fire; deep feather beds spread with gay patchwork quilts; clean flour sacks of dried beans and apples stowed away in every corner; and festoons of red pepper, strips of pumpkin, and drying herbs hanging from the rafters. A spinning wheel often occupies the place of honor on the front porch, and hanks of snowy wool hang from the rafters waiting to be knit into wool socks for winter wear. On the hillside back of the house one finds a colony of bee-hives locally known as "bee gums," commonly of black gum logs hollowed out and capped with a square piece of board.

In a typical log house of one room, shed, kitchen, and loft—a quarter of a mile up a steep mountain trail from the nearest neighbor—a father and mother are rearing their six children. Asters and cosmos, towering head high, almost obscured the house from view; a little creek dashes past, 50 feet below. Trays of apples and beans were drying in the sun. Inside, the house was not ceiled and the

mother had papered the walls with newspapers which, she said, "turned the wind" and kept them warmer and more comfortable, though not so warm as a "tight" (sheathed or plastered) house would.

A little two-room cottage, almost hidden from the road by a dense intervening wilderness of laurel and rhododendron, is the home of a family of father and mother and five children; the house, of upright boards, ceiled inside, was immaculately clean and in perfect order at 8 o'clock in the morning. Snowy hand-woven counterpanes covered the three homemade beds. The open fireplace held an iron pot of beans cooking for dinner. The porch was piled high with wool drying in the sun, and the yard was clean and bright with flowers.

An occasional painted two-story farm dwelling shelters the members of a family who have prospered at farming and on "public works" until they are the owners of a considerable tract of land and are leaders of the settlement in which they live. Comfortable house furnishings, two fireplaces, porches—front and back—a capacious barn, good spring house, and well-built privy all testify to a prosperity above the average.

The common type of mountain home, however, is lacking in certain essentials of a comfortable dwelling place, the most frequent defects being insufficient space, which necessitates overcrowding; insufficient light, due to the small number and size of windows; and the difficulty of heating when the house is a loosely constructed log cabin or unceiled cottage.

A majority of mountain homes in the townships visited were small in spite of the abundance of timber in the vicinity: over one-third are one- or two-room houses; less than one-fifth have more than four rooms. Limited house space coupled with families above the average in size (in over half the homes visited there were six or more persons in the family) results in overcrowding within the house, often quite as serious as in the congested sections of cities. In one-fourth of the homes there were five or more persons to each sleeping room: 38 families of two to nine persons were housed in one-room cabins, cooking, eating, and sleeping in one small room.

At one home a grandmother, a great-grandmother, and three boys—8, 15, and 21—all sleep in one room. A family of father, mother, and 10 children were living in a cabin of two rooms and loft. At another home the father, 19-year-old son, and two young daughters slept, lived, and ate in one room, cooking in the fireplace.

Keeping the house warm in winter is a difficult problem with most families. Many houses are unceiled, with cracks between the logs or undressed boards. Even with these cracks chinked up with mud

and good fires in the open fireplaces and in the cookstove, the house is far from comfortable.

Sanitation.

WATER SUPPLY.—Almost every mountain family draws its drinking water from a clear sparkling spring, which is counted as one of the family's choicest possessions. "It's good water," said one mother, "everybody says it's the best water in this country." Another woman, who had just returned from a visit to her daughter in town, "could hardly drink the town water." She would "drink and drink and then wasn't satisfied."

That there is a real danger lurking in the use of spring water in a locality where insanitary conditions prevail is as yet unrecognized. Many springs are below the house and in a position to receive the house drainage. Lack of privies greatly increases the danger of contaminated water.

Of the 10 wells in the neighborhoods visited, only 3 are of the drilled type—usually considered the safest form of water supply for rural households. One family has had a well drilled through solid rock from top to bottom; the top is cemented, and the well is provided with a good pump. At one home, an open well had been in use until three years ago when, after a case of typhoid fever at the next house, the county physician condemned the well and had the family sink a new one, which is closed in with a tight board platform and has an iron pump.

Another family uses "branch" water through the winter; the spring is so far away that carrying water such a distance in rough weather would be a great hardship. In this case, though there is no house above the family on the "branch," there is no reason to believe the branch water would be free from pollution, for the settlement is not remote, and there is considerable passing back and forth over the mountain.

PRIVIES.—Sanitation falls far short of present-day standards for rural communities. Privies are extremely rare, only 1 family in 10 having a toilet of any description. It is not uncommon to find a considerable prejudice against them, many families disliking, as do some families of the cotton country, the idea of filth accumulated in one place. Where a toilet is present at all it is usually for reasons of privacy; i. e., where the house fronts a frequently traveled road, with no woodland in the immediate vicinity. The intimate relation between good sanitation and good health is little understood. The few privies in the neighborhood—25 among the 231 families visited—are almost invariably built far out over the "branch," the contents washing down the swiftly moving stream. The State board of health is constantly emphasizing the importance of improved rural sanitation and pointing out the direct connection between lack of privies

and the transmission of such diseases as typhoid, hookworm, and the diarrheal diseases.

DISPOSAL OF REFUSE.—Garbage is commonly fed to the hogs; other refuse is either burned or thrown, with small idea of a sanitary disposal, into a hollow down the hill, into the branch, raked away from the house, or thrown into the woods.

Manure accumulates in the stable to be used as a fertilizer twice a year, for spring corn and winter wheat. No attempt is made to treat it in such a way as to guard against flies. It is quite common, however, for the barn to be located at some distance from the house, often 100 or 200 yards away, or "on the other side of the hill." Where this is the case, the fly nuisance is less objectionable, but by no means negligible.

FLIES.—Flies are numerous because of the primitive, insanitary conditions prevailing; mosquitoes, however, are rarely if ever seen. No one of the homes visited was adequately screened; some few have screen doors or screens at doors and kitchen windows, but it is only in rare cases that any attempt at screening has been made.

MATERNITY CARE.¹

During the inquiry 160 mothers, who had given birth to a child—live or stillborn—within five years previous to the agent's visit, were interviewed with especial reference to their maternity care at their last confinement.

Large families are common in the mountains; the women marry early and bear children at frequent intervals. Slightly over two-thirds of the mothers had married at 20 years or younger and nearly half at 18 years or younger. Of 103 women visited, who had been married 10 years or more, 90 (87 per cent) had had 6 or more issues.

Facilities for medical, hospital, and nursing care.

Facilities for the care and treatment of sickness are strikingly lacking in this county. Only five physicians²—four at the county seat and one in a village where a normal school is located—overburdened almost to the breaking point, are the dependence for medical service of a population of 13,718.³ This is an average of 2,744 persons to a physician, which is over four times as many as the average (691) for the United States.⁴ The concentration of physicians at the county seat is to be expected, for social and financial reasons; but, because of rough roads, at times almost impassable, and an absence of telephone communication, also because of the prohibitive expense of a day's trip from physician to patient, the greater

¹ See discussion of general need for maternity care as given for the lowland county, p. 26.

² American Medical Directory of 1916, pp. 1163, 1163.

³ Estimated for 1916 by the U. S. Bureau of the Census.

⁴ American Medical Association Bulletin, Jan. 15, 1917, p. 99.

part of the county is practically cut off from medical service. There is no physician resident in either of the three townships of the survey, and the families live from 3 to 25 miles from the nearest doctor.

The county has no hospital, the nearest being located at the county seat of the adjacent county, reached once a day by mail stage across the roughest of mountain roads. No trained nurses are resident in the county, and patients are entirely dependent upon the well-meaning but untrained services of neighbors and relatives.

Maternal deaths.

The maternal mortality of the county indicates a need for consideration of the problems of prenatal and obstetrical care. During 1916 there were three deaths in the county from causes connected with childbirth,¹ a rate of 21.9 per 100,000 population.² Here, as in the lowland county, it is impossible to determine whether this rate is sporadic or usual, since mortality statistics for the State and its counties are not available earlier than 1916, when the State was admitted to the area of death registration; also, a rate is often misleading when the area is small and a small number of deaths are considered. However, it is significant that this rate is higher than the rate (17.3) among the white population of the lowland county, approximately the same as the rate (21.1) for the white population of the State as a whole, and distinctly higher than the average for the death registration area of the United States in 1915 (15.2).³

Prenatal care.

Prenatal care of mothers in the mountain country, as in rural sections of the lowlands,⁴ is practically nonexistent; even mothers living within 6 or 8 miles of a physician rarely consulting him during their pregnancy, content usually with notifying him of the expected confinement. Even this precaution is often omitted and valuable time is lost hunting a substitute when the family physician is away on a call. No one of the 160 mothers visited can be said to have had the supervision which has been described as constituting "adequate" prenatal care.⁵ Of the 160 mothers, 124, or more than three-fourths, had had no advice or supervision whatever during their pregnancy, and no prenatal care of any sort; only 7 had seen a physician previous to confinement; and only 1 had had urinalysis. Twenty-eight mothers had been visited by the midwife before confinement—visits, however, usually social rather than professional in character and not involving a physical examination of the mother.

¹ Information furnished by the bureau of vital statistics of the State board of health.

² Based on the U. S. Census's estimated population of 13,718 for the county in 1916.

³ See Mortality Statistics, 1915, p. 50. U. S. Bureau of the Census, Washington, 1917. Sum of the rates there given for "puerperal fever" and "other puerperal affections."

⁴ See p. 29.

⁵ See p. 30.

Attendant at birth.

Because of the inaccessibility of physicians,¹ the midwife has necessarily been employed to a large extent for obstetrical work.

The more prosperous and intelligent families called a physician to attend the mother in confinement; 68 of the 160 mothers had been attended by a physician at their last confinement; the others, with the exception of 2 where a relative assisted and 1 where there was no attendant whatever, depended upon neighborhood midwives. In 5 cases at the last confinement and many times in previous confinements the doctor had been late, not arriving until after the birth of the child. Several families who had intended to employ a physician failed altogether in their efforts to reach him.

This inability to secure adequate medical attention at childbirth had often resulted disastrously. A mother in a remote little cabin far up on a mountain trail was very miserable during pregnancy. Twice a week for the last two months her husband went down the mountain to the nearest store and telephoned to the doctor in an effort to keep him informed as to her condition. When labor came on, however, it was impossible to get the doctor, and the mother suffered all night before he arrived and delivered her. One of her twins died at birth.

The doctor was sent for one night to attend a woman in confinement, but the country was "all frozen up" and he said that he could not make the 8-mile trip until the next day. A midwife was called in; the mother's health has been poor ever since this confinement.

A mother whose baby died at birth is confident the child would have lived if they could have got the doctor there in time.

One woman had twins several hours apart; the doctor was late and the mother thinks that without the assistance of a midwife she and the second baby would have died. After this experience she engaged both doctor and midwife for each confinement. The doctor was late also when her last child was born.

Another family tried all night to get a doctor, but the baby strangled before he reached them, though it was born alive.

At one home a midwife was engaged, but when summoned had gone to a "union meeting" at the church and failed to arrive until three hours after the baby was born.

A mother who has lost two of her five children in stillbirth does not know the cause; the babies were both alive when labor began, but the mother always has had a long tedious labor. She never has had a doctor.

A mother of nine children, too isolated in her home at the end of the trail for a doctor to reach her without excessive delay, has never had a doctor in attendance at confinement. On two occasions a midwife

¹See p. 67.

was engaged, but the mother's experience has led her to feel slight confidence in midwifery, and she now prefers to manage for herself, with the aid of her husband and what information she can get from the woman's page of their farm paper. When her first child was born, the midwife came four days before; this made extra cooking for the mother who, in addition, had to carry wood and water. When it was found to be a case of breech presentation, the midwife did not know what to do, and became so excited that she had to be sent away because she was disturbing the mother.

MIDWIVES.—All the 11 midwives living in the district studied were interviewed, also 2 from an adjoining township who are sometimes engaged by women of this section. Eleven are white and 2 negro, ranging in age from 39 to 65 years. Five can read and write and 2 state that they can read but not write; only 3, according to their reports, are licensed by the State board of health. The experience of these 13 women in midwifery had extended over periods of from 5 to 25 years.

Charges ranged from \$2 to \$5, \$3 being the common price. Services rendered included delivery and from one to three postpartum visits if within walking distance. If desired, they stayed from two to seven days, assisting in the work of the household after the mother and baby had been made comfortable. In this case, an extra charge of \$2 per week was made.

None of the midwives report any supervision of pregnancy, physical examination of the mother, or urinalysis. With the exception of one who recommends that her patients use sulphur freely to regulate the bowels, no prenatal advice of any sort is given.

In preparation for their cases two midwives use carbolic or antiseptic (bichlorid) tablets; four merely wash their hands. One midwife owns a bag and carries carbolic acid, antiseptic tablets, and spirits of ammonia. Three attempt no preparation of the patient. Ten prepare the bed if they arrive in time. All use old quilts, though four have clean linen before and after confinement, if possible. Quinine, black-pepper tea, red-raspberry, lady-slipper, and other teas are commonly given to hasten confinement. Other remedies are sweet apple bark, cinnamon, garden sage, black gum, star root, hemp, and bead wood.

From one to three examinations of the mother are usually made during labor; three midwives make no examination, one because she believes in letting nature take its course. Another makes no examination so long as the patient seems to be doing well. One makes an immediate examination, for she wishes to be honest with the patient and with herself, and if the child is not "properly placed" wishes the doctor called at once.

Nine have never called a doctor, though a few would do so if the patient were not doing well—that is, if there were a prolonged labor (24 hours or more), a "preternatural present," rigors, or nervousness.

Postnatal care.

Usually the doctor makes no return visit to the mother after the birth of the child; of the 68 mothers attended by physicians only 9 had had any medical supervision after childbirth. The distance from the physician, the almost prohibitive cost of his visits, and the lack of recognition by the mothers of the importance of after care are generally the deterrent factors.

The midwife, if living any considerable distance away, stays sometimes several hours, occasionally for two or three days; where she is a near neighbor it is customary for her to "drop in" every day or so in passing. Of the 89 mothers attended by midwives, in 7 cases the midwife had remained in the home; in 40 she had made one or more postnatal visits. Even the mothers attended by midwives, however, in many cases were left entirely to their own resources after the child's birth.

Nursing care in confinement.

Trained nursing in confinement is wholly lacking. No one of the mothers visited had had the benefit of either a trained or "practical" nurse during confinement; 11 had been nursed by the attending midwives. Of the 160 mothers, 148 were dependent upon untrained nursing—that is, members of the household, relatives, neighbors, or friends.

Rest before and after confinement.

Though not under the strain of helping make a crop for market as in the eastern county, much of the burden of providing for the family falls upon the mother, who often feels that she can not spare the time either for sufficient rest before or a reasonable convalescence afterwards.

As a rule, however, during this period, other members of the family take over the heavier part of the mother's work—washing, milking, and field work; for the last three months of pregnancy, at least, the average mother stops helping with the field work. Thirty-five of the one hundred and sixty mothers, about one-fifth, had continued their field work beyond three months before confinement, this depending largely upon the season of the year in which confinements occurred. Certain weeks of summer and autumn are the busy seasons with the crop, when all possible help is needed in the field.

In this section the mother's period of rest in bed after confinement is usually limited to from 7 to 10 days. About one-third of the mothers visited were in bed two weeks or more, though in a few exceptional cases they were up and about their work in three or four days. A strong wholesome-looking mother of seven children told the agent that everybody wonders that she does not break down and get old; she thinks it is because she is careful to rest sufficiently after

her children are born. She works up to the last minute, for she feels stronger when carrying her children than after confinement; afterwards, however, she rests for a month, which she thinks is "every woman's entitlement."

Mother's work.

The work of the mountain mother is burdensome and she bears more than her share of responsibilities of the household. Her housework includes washing, ironing, cooking, cleaning, sewing, and often spinning and knitting for the family. Handicapped by lack of modern conveniences, her task involves undue hardship. In most of the homes cooking is done on a small wood stove, with none of the modern conveniences; often the only implements are iron kettles, pots, and ovens which may be used interchangeably on the stove or in the fireplace; the latter is still preferred by many for baking corn bread and sweet potatoes. A scant allowance of fuel is provided from meal to meal. During a rainy spell, or when the father is away or sick, or the children off at school, the mother may be left without fuel, though wood grows at her very door.

Carrying water, a toilsome journey up and down hill several times a day, usually falls to the lot of mother and children. No one of the families visited had water in the house or on the porch, and only 1 out of 5 within 50 feet of the house. Twenty families carried water over 500 feet and 8 families were from an eighth to a quarter of a mile distant from their springs.

The wash place, consisting of tubs on a bench and a great iron wash pot in which the clothes are boiled, is usually close by the spring. Much straining and lifting and undue fatigue are involved in this outdoor laundry. Sometimes even a washboard is a luxury, substituted by a paddle with which the clothes are pounded clean on a bench or a smooth cut stump.

Much of the family bedding is homemade, the work of the women and girls in their leisure hours, after the crops are laid by or in the evening by the fireside. Besides the time-honored "log cabin" pattern, their collections of patch-work quilts include such quaint and intricate designs as "Tree of Life," "Orange Peel," and "Lady of the White House." Many a mountain home has its spinning wheel still in use and occasionally one finds an old-fashioned hand loom. Some homes display a collection of coverlids and blankets, handmade at every step of the process. The wool was grown on the home farm; sheared from the sheep; washed, carded, and spun by the women and girls of the family; dyed, sometimes with homemade madder, indigo and walnut dyes; and woven on the loom into coverlids and blankets. Even the designs are often original or variations of old favorites, like the "Whig Rose," "Federal City," and "High Creek's Delight by Day and Night."

The other duties of the mother are largely seasonal. From December to August the children are home from school and she has their help. Together they make the garden; help plant the corn and peas for winter; gather them when ripe; pull fodder and dig potatoes; feed the stock; and perform the usual farm chores of milking, churning, and carrying water. In many homes the mother may be found doing chores which are usually considered a man's work, unduly prolonging her working hours and exposing herself to more stress and strain than is compatible with her own health or that of the children she is bearing.

It is uncommon for help to be hired in the home, except occasionally for a few days during confinements. Moreover, with the exception of sewing machines, household conveniences are totally lacking. Hard-working women complained that the men have planters, drillers, spreaders, and all kinds of "newfangled help," but that nothing had been done to make women's work easier.

Practically all the mothers visited, besides their housework and chores, had helped in the fields more or less—hoeing corn, pulling fodder, and so forth. Of 212 mothers, 188, almost nine-tenths, had worked in the field before marriage; 167 since childhood; and 166, or three-fourths of the mothers visited, had helped in the field after marriage.

A woman's field work in the mountain country is not so extensive or fatiguing as in the lowlands where the cotton crop requires the constant labor of the entire family many hours a day during a long summer and autumn. In the mountains, little farming is done, the average family raising no appreciable farm produce for sale. The woman helps plant and hoe the corn and in the autumn helps harvest the crops—stripping fodder, carrying it to the barn, making sirup from sorghum cane, picking beans, gathering apples, and digging potatoes. Her field work is not arduous in itself, but only because it is undertaken in addition to her already numerous duties—caring for the children, housework, sewing, canning, and chores.

INFANT CARE.

Infant mortality.

These townships of the mountain country have a considerably higher—that is, less favorable—infant mortality rate than any of the rural sections so far studied by the Children's Bureau. Of 1,107 children born alive, whose birth occurred at least one year before the family was visited, 89 had failed to survive their first year, an infant mortality rate of 80.4 or a loss of one child in 12. This rate (80.4) is almost twice as high as among the white children of the lowland county (48), and considerably higher than the infant mortality rate in the county studied in Kansas, computed on this same basis, which

was 55 per 1,000 live-born children. Kephart¹ mentions the high infant mortality among the mountain children:

Mountain women marry young, many of them at 14, 15, and nearly all before they are 20. Large families are the rule; 7 to 10 children being considered normal and 15 is not an uncommon number; but the infant mortality is high.

The infant mortality rate shows a considerable variation with the age of the mother, being least favorable where the mother is under 20 and most favorable between the ages of 25 and 29.²

AGE AT DEATH AND MOTHER'S STATEMENT OF CAUSE OF DEATH.—A proportionately greater loss of infant life occurred within the first two weeks than at any other time within the year, as repeatedly shown in previous studies of infant mortality. Of the 89 infant deaths, 38, nearly half, had occurred within the first two weeks; 7 were deaths of babies 2 weeks, but less than a month old; 17 were 1 month, but less than 3; 8 were between 3 and 6 months; and 19 were 6 months, but less than 1 year. The proportion of infant deaths occurring in the last half of the year is considerably higher than is common and may be attributed about equally to feeding disorders and to disturbances of the respiratory tract.

Prematurity was the most important cause of infant loss in these communities. Of the children that failed to survive their first year, one in four (22 out of 89) had been prematurely born. "Bold hives" is a term encountered throughout the mountains, used loosely to designate infant ills of various sorts, particularly gastro-intestinal disturbances and croup. Seventeen babies, according to the statement of the mothers, had died of the "bold hives." Ten infant deaths from gastro-intestinal causes and 14 from respiratory causes were reported, besides those which may have been included in the blanket term "bold hives." There were 2 deaths from measles and 2 from whooping cough. Eight were due to the following causes: 1, "scrofula"; 1, "eczema"; 1 was "found dead in the morning"; 1 was "always sickly"; 1 "took fits"; 1 was "malformed"; 1 "died all at once"; and 1 was "drowned." In 14 cases the cause of death was not reported.

¹ Kephart, Horace: *Our Southern Highlanders*, pp. 258, 259.

² The rates are as follows:

Age of mother.	Infant mortality rate.
All ages.....	80.4
Under 20.....	133.9
20-24.....	94.3
25-29.....	60.0
30-34.....	60.9
35-39.....	84.6
(40 and over not shown because such a small number of births occurred at this age.)	

STILLBIRTHS AND MISCARRIAGES.—The proportion of children still-born (2.3 per cent) is slightly less than in the lowland county for either white (3.9 per cent) or negro (3.5 per cent) mothers. A somewhat larger percentage of pregnancies had, however, terminated in miscarriages, 5.5 per cent, as contrasted with 3.6 per cent for white mothers and 5.4 per cent for negro mothers in the lowland county.

Infant feeding.

Feeding records, covering the history of the baby's feedings during the first year of life, were obtained for the last child under 5 years and included 160 children.

As in many rural districts, infant feeding follows traditional methods. Distance from the physician is so great that his supervision of feeding is out of the question, and books and magazines with articles on infant care are extremely rare. The result is that the mother relies wholly upon the advice of relatives and neighbors and her own experience.

Breast feeding is universal. Every one of the 157 babies for whom records were secured had had some breast feeding from birth up to the ninth month. Weaning is commonly left to the inclination of the baby itself; of the 67 babies weaned by the time of the agent's visit, only 10 were weaned before reaching their first birthday. Commonly they were 13 to 18 months old (33), while 17 were 19 months to 2 years, and 4 were over 2 years at the time of weaning.

In addition to the breast milk the average baby is given from an early age a taste of everything the mother eats. As a rule hunger is the only recognized cause for crying, and the mother's indulgence knows no bounds when it comes to feeding her baby. That the child's stomach is overloaded by indiscriminate and unwise feeding is due not at all to indifference but to her determination that he shall not go hungry.

Catnip, ground ivy, or red alder teas are commonly given in the early months—almost universally for the first three days. Usually after three or four months the child is "fed" tastes of solid food. One mother fed her children after three weeks. "When I went to the table they went with me," she said. Another had fed her last baby catnip tea, coffee, and sweetened milk during the first three days, then sugar and milk to the second month, and after that everything she ate. Her babies "mighty near live on sugar till they are big enough to eat." Often it is the children who "spoil" the baby and begin his irregular habits of eating.

Many, of course, are more careful with the baby's diet. "It doesn't do them much good if you keep burning them up with strong meat and vegetables," had been the experience of one mother. Another had fed her first and second child from birth, but is convinced that she made a mistake, and therefore gave the third and fourth nothing but the breast.

PHYSICAL CONDITION OF CHILDREN FROM 1 TO 15 YEARS OF AGE

General health.

Without a physical examination it is, of course, impossible to make any but the most general statements as to the health of the children visited. The most common illnesses, according to the mothers, are associated with the gastro-intestinal tract—colic, diarrhea, dysentery, and cholera infantum being reported in many cases. Next in frequency came the complications of the respiratory tract, locally designated as "phthisicy" conditions, which were found in numerous households. The child would "choke up" with cold, and be "wheezy," and so forth. "Pneumonia fever" and pleurisy were terms loosely used, but were recognized as being illnesses of serious import.

Contagious diseases, especially measles and whooping cough, were common in spite of the remoteness of the homes. With no public health protection, at the time of the inquiry, in the forms of quarantine, placarding, reporting, and no medical inspection of schools, the children were continually at the mercy of such diseases. Diphtheria and typhoid have also been fairly common. A number of cases suggestive of meningitis were reported and six known cases of infantile paralysis were found (occurring previous to 1916), besides others which it was impossible to verify. Unlike the lowland county, malaria is rare in this region.

Hookworm or "dew poison" is common, almost universal, among the barefoot children of the mountains. A hookworm campaign was conducted in the county in 1913 by the Rockefeller Sanitary Commission, now the International Health Board of the Rockefeller Foundation. During the campaign 1,202 persons were examined, of whom 774 or 64.4 per cent were found to be infected. This campaign, like that in the lowland county, was confined to the examination and treatment of individuals and did not include the erection of privies throughout the county, which has been the important feature of the more recent campaigns. The efficacy of hookworm treatment is now recognized in this county, but only continued educative work along sanitary lines and a widespread provision of sanitary privies can make such a campaign effectual. When even the schools are not equipped with privies of any description, the public can not be expected to take very seriously the menace of soil pollution.

An interesting disease peculiar to this mountain region and to parts of New Mexico and Tennessee is the milk sickness, or "milk sick," as it is persistently called. This affects all ages alike and is often urged as a reason for substituting other foods for milk for young children. It is said that one or two men of the county claim to be specialists in the disease, which is, however, almost invariably

fatal; and not only the public but also the skilled and experienced medical profession of this vicinity have a wholesome dread of "milk sick." The disease is thought locally to have occurred only where the cow has been pasturing in certain shady coves of rich vegetation and usually in the spring of the year. It is said that as these coves are cleared of their dense vegetation milk sickness disappears.

According to Rosenau,¹ milk sickness—

was once very prevalent throughout the central part of the United States, and was one of the dangers our pioneering forefathers had to contend with. In some localities the disease was so prevalent and fatal that whole communities migrated from the milk-sick sections to parts where the disease did not occur.

We are told by Col. Henry Watterson that Nancy Hanks, the mother of Abraham Lincoln, died from this disease in 1818 after an illness of a week. In the words of Col. Watterson, "the dreaded milk sickness stalked abroad smiting equally human beings and cattle." * * * It is an acute, nonfebrile disease due to the ingestion of milk or the flesh of animals suffering from a disease known as "trembles." The affection is characterized by great depression, persistent vomiting, obstinate constipation, and a high mortality * * * there is no known cure or prevention except the elimination of the disease in cattle, which fortunately is rapidly taking place.

Neglect of the teeth, eyes, and ears is particularly noticeable in these communities and affords common cause of distress and disability. The average child is in serious need of dental attention; several cases of "sore eyes" and of trachoma were found; running or "bealing" ears was a common occurrence, a number of children having defective hearing due to lack of suitable attention.

Mortality and mother's statement of causes of death.

Forty-six deaths of children from 1 to 5 years of age had occurred, of which the largest number, according to the mother's testimony, were due to respiratory diseases—4 of pneumonia, 3 of croup, 1 of diphtheria, 4 of whooping cough, and 1 of "lung trouble." Seven children were said to have died of meningitis, 4 of flux, 2 of cholera infantum, 2 of typhoid, and 2 had been burned to death. According to the mother's testimony, in other cases death had resulted from scrofula, bold hives, spinal disease, paralysis, drowning, stomach trouble, diarrhea, "rising" of head and throat, scarlet fever, fever, inflammation of stomach and spine, teething, and 1 "because it was a blue baby." Ten children had died between the ages of 6 and 16 years, of meningitis (2), diphtheria, pneumonia, Bright's disease, worms, typhoid, scarlet fever, 1 from drowning, and 1 of whose death the mother could not give the cause.

Medical care.

The rural child of the mountains, just as was the case with the rural child of the lowland county, instead of being immune from the ills of the city child, is subject to the same diseases and, in addition, is seriously handicapped by the lack of available medical service.

¹ Rosenau, M. J.: *The Milk Question*, pp. 129, 130. Houghton-Mifflin Co., Boston and New York, 1912.

The area studied was from 4 to 25 miles from a licensed physician. The nearest substitutes were two men supposed to be specialists in the treatment of "milk sickness," an Indian doctor living somewhere in the mountains who was said to be an expert in "summer complaint" and skin eruptions, and medical students or traveling practitioners who sometimes pass through the country. The five licensed practitioners of medicine resident in the county,¹ even working to the limit of physical endurance, find it quite impossible to reach the whole countryside. It is unavoidable that the children should suffer from this lack of medical or public-health supervision.

One home is 20 miles distant from the nearest doctor—a day and a half's journey unless one travels by night. Once, 10 years ago, the family sent for the doctor, but he was unable to get a horse, so failed to arrive. The mother in this home is exceptional. She has 11 fine, robust children, all of whom are living, and has amassed a fund of common-sense methods which she applies in rearing her family single-handed, as she must, being completely cut off from medical advice.

This mother "begins with their diet"; she sees to it that they have plenty of fruit, vegetables, milk, and eggs the year round. The baby's milk has her particular attention; she is careful to keep it perfectly clean and has a big box over the spring where the milk can be kept cool and good. She has the children bathe regularly, change their clothes often, and sleep in fresh air summer and winter. She says "the boys are in the river most all summer." When the children appear ill she sends them to bed without supper—only a drink of water, keeps something hot at their feet, gives them salts, and takes care that they are clean "inside and out." Due to the mother's skilled nursing, the whole family weathered even smallpox without a doctor.

Home remedies.

The mountains are full of fragrant herbs noted for their medicinal qualities. Every home, however small, has its stock of herbs, gathered by the housewife each in its proper season and stage of development. The most commonly used were catnip, pennyroyal, and ground ivy for colds and grippe and "to break out the hives"; bone-set for coughs and fever; life everlasting, lady slipper, and red raspberry for colds or fever, stomach trouble, or headache, and to "quiet the nerves and make a body rest"; red alder for hives; goldenseal for colic, stomach trouble, sore throat, fever, and as a tonic; partridge vine (also known as wallink, pheasant berry, one berry, and mouse-ears) to break out the hives; black-snake root for cramps, colic, colds, and fever; camomile for stomach trouble; ginseng for colic, stomach trouble, hives, sore throat or mouth; and gulver root for the

¹ See p. 67.

liver. "All sorts of teas" was one mother's explanation of her habits of doctoring. On the other hand, with some families teas are not in favor; one mother "hardly ever uses teas any more"; and another "never could see that teas and such do much good."

Homemade salves, poultices, and liniments are numerous. For sores a salve of heart leaves, carpenter leaves, or balm of gilead, rosin, and fresh butter stewed down; for rheumatism a liniment of kerosene, turpentine, camphor, and apple vinegar in equal parts, with salt; for coughs, a sirup of catnip, horehound, Indian turnip, and honey; and for cuts, bruises, and sores "tincture of lobelia," made by chopping the whole plant and making a strong extract, then adding whisky and straining.

In addition to teas, oil, salts, turpentine, paregoric, sulphur for sores, a patent "pneumonia cure," and various forms of cordials and "drops" (soothing sirups) are popular. Patent medicines are not patronized to any great extent.

Diet.

With the excellent climate and soil of this section a variety of diet is possible. The average family raises in small quantities cabbage, potatoes, beans, beets, onions, tomatoes, corn, sweet potatoes, and pumpkins; occasionally peppers, kershaws (a species of squash), cucumbers, parsnips, and turnips. Fruits are limited to apples, which are raised in abundance, wild grapes, and occasionally peaches. Cereals, milk, and eggs are more common than in the lowland county, and besides the pork—the main dependence of the families in the lowland county—there are also poultry, beef, and mutton.

From spring to autumn may be seen the systematic preparation for winter. Aside from the storing of grain, potatoes, and apples, each yard has its stretchers of drying peas, beans, sliced sweet potatoes, and apples; poles strung with great orange rings of pumpkins, bunches of tawny tobacco and fragrant herbs. Porches are hung with festoons of peppers, onions, and leather breeches (beans strung in the pod). When dried, these stores are neatly packed in "pokes" (flour sacks) and stored for winter.

Much fruit is canned—apples, berries, peaches, etc.—in boiling water without sugar. Jars are packed with wild grapes and filled with boiling sirup; jam, jelly, fruit butter, and pickles of all kinds are made. Apples are "bleached" in great quantities—a process which keeps them white, moist, and juicy like fresh apples, but requires no sugar nor cooking. The apples are peeled, sliced, and turned into a covered barrel or cask with a perforated bottom through which fumes of sulphur are allowed to percolate. The receptacle is kept covered by only a heavy cloth, and apples are added from time to time, and subjected to the same process. Kegs of kraut are made

and gallons of beets and beans similarly packed. In fact, if all housewives showed the same thrift, economy, and ingenuity characteristic of the mountain woman, this country would produce enough food and to spare.

The mothers are earnest and hard working in their efforts to do their best for their children, but they lack an understanding of the needs of the growing child. This was shown in the unsystematic, promiscuous feeding, in the preparation of underdone starches, in excess of fats, and in a too hearty diet. Three heavy meals a day are served and food *ad libitum* between times—potatoes, beans, peas, meat, and big doughy biscuits, or partially cooked corn bread.

This county has no home demonstration agent, no farmers' institutes with their sessions for women—in fact no organized means for an exchange of stimulating ideas and improved methods of household management.

EDUCATION.

In spite of the compulsory-attendance law, the mountain child in the townships visited is not getting his just educational rights. He attends school during the five months' term in a hit-or-miss fashion for a few years, then stops altogether, at an early age, usually under 16 years, before he has acquired even the first essentials of an education. "They have it here now so the children have to go to school," said one mother approvingly of the school law. Another, however, thinks the State has no right to compel children to go to school and then fail to provide good roads and transportation; her children are obliged to cross a deep and very swift creek; the uncertain foot bridge is often out of place; and the children often come home wet to the waist after fording the stream.

School term and attendance.

The school term, at the time of the inquiry, covered from four to five months, usually beginning the first of August and extending to the middle of December. The midwinter school term, customary in most parts of the country, is impossible in this section because of the rough weather, bad roads, and distance of the children from the school; in the spring the children are needed at home to help with the planting.

For one reason or another schooling is continually interrupted, the most common causes being farm work—particularly "fodder pulling" in the fall of the year—and bad weather. In one family the children missed two months out of the five-months' term; they have to "stop out and help a lot" and besides "when it gets too cold and rough they can't travel this mountain." Such irregular schooling discourages even the most ambitious. For example, a 16-year-old boy who has gone a while every year but has had to stop to gather

fodder, plow, sow wheat, etc., is so "disheartened" at falling behind his classes that he threatens not to go any more.

A number of homes have no school within a reasonable distance; one-third of the families visited are 2 miles or more from the school; in 39 families children of school age are not compelled to attend at all, since there is no school within $2\frac{1}{2}$ miles of their home, which is the greatest distance they can be compelled by law to travel. An unusually bright, alert 11-year-old boy has only 11 months schooling to his credit; he wants to be in school, but the family lives on a remote mountain top and the 6-mile round trip to the school would be too much for him. The mother of a 9-year-old "teaches him at home." "He's so young and it's so far to walk, and school is confining on a young one," she says. At the home of a family of "renters" living $3\frac{1}{2}$ miles from the schoolhouse, the father is distressed because his three children—aged 10, 12, and 14—are having no schooling; it is impossible for them to go such a distance, especially since they have to travel a steep trail straight up the mountain. He has been hoping for a school nearer in order that the children may attend regularly. "There wouldn't be any day so cold but that we could wrap them up and send them, then," said he. The children's mother thinks "it looks like a renter's children ought to have a chance as well as anybody's." One of the schools attended by the children visited is badly located on the summit of one of the highest mountains in the whole system. A strong, robust adult would find the long climb up the mountainside a trying ordeal. For little children it is almost impossible, and irregular attendance is the result.

Although the majority of children begin school at 6 years of age, over one-fourth are not sent until they are 7 or older because of the distance they would have to travel and the rough weather to which they would be exposed. As a rule a child has stopped school before he is 16.

The short school term and irregular attendance are probably responsible for the slow progress made by many of the children. It was surprising to find that over one-third of the children 10 to 20 years old in the three townships visited were unable to read and write.

Attitude of parents toward education.

At a number of homes, instead of making school a serious business, there seemed to be a tendency on the part of parents to humor the children in their whims. Three children—aged 6, 8, and 10—who did not like the teacher, were allowed to stay home whenever they pleased. Another teacher is severe with the children and the father is afraid to make his boys attend against their will "for fear something will go wrong." One mother "never sends hers until they want

to go; children never study to do good until they take the notion," she said. Another thinks if you send them at 6 they "get a disgust at school and want to quit." In one family the oldest child, aged 14, is sickly; "he couldn't go and we kept home the other one (13 years) to humor him," said the mother.

Many parents, however, in spite of the hard struggle to make a bare living on the mountain hillsides, with "fighting blood" aroused are trying to give their children every possible opportunity for schooling. A mother who herself had to work from early childhood has always sent all her children to school with a grim determination to give them a "grand education"; she cheerfully shoulders the farm work, pulling fodder, cutting tops, etc., in the field all day that the children may be kept in school. In another mountain home there hangs a framed certificate showing that a 9-year-old girl, the youngest in the family of 10, was neither absent nor tardy during the entire school term last year. A girl of 14, another "youngest child," has gone to seven "schools" (school terms) and has never missed a day or been late. One mother, herself illiterate, "wants her children to be well-educated so they can read the Bible."

A large family in a poverty-stricken little home at the foot of a high mountain, many miles from the nearest town, has had all kinds of bad luck, and if it had not been for the mother's ambition for them the children could not have had a chance. Once when there was an unusually good teacher at the subscription school, and the family could not afford to send the children, the mother went to the teacher and asked him if he would accept the heaviest pair of wool blankets she could weave instead of tuition. He agreed. She later made the same arrangement with one or two other teachers. When the time came to send the two oldest girls to the town school, the mother and the oldest boy took a cane mill over the mountains, making sirup on shares, wherever people raised cane. They sold sirup and made enough to start the girls, borrowing the rest with the understanding that the girls would pay it all back the first year they taught. At the town school the girls made gratifyingly high records in scholarship. The mother is a splendid type of woman, desperately anxious that the children shall "learn and get ahead."

It is customary in this county for the teacher to take the school census before the term begins, a plan which gives her, often a stranger in the neighborhood, an excellent opportunity to visit and get acquainted with the children's parents. During the term, however, little visiting is done; occasionally the teacher goes home with one of the children for the night and occasionally a mother or father visits the school to explain why their children must stay at home and help with the crops. Nothing like the parent-teachers' associations of the cities has ever been organized and there seems to be little coop-

eration between the parents and teachers in planning together for the best welfare of the children.

Need for medical inspection of schools.

Several children are missing school because of physical defects, some of which might easily be corrected; with medical inspection of school children and the "follow-up" visits of a public health nurse, much of this absence could be avoided. A 9-year-old boy has been in school for two years, but could not learn anything, so his father took him out last year at Christmas; his eyes were bad and everything blurred when he tried to read. No efforts have been made to have his eyes examined and he will probably be out of school indefinitely. A 12-year-old crippled child will have but little schooling, though a special shoe might remedy the difficulty. The school is only an eighth of a mile away, but the road is rough and slippery, crossing a creek by a foot log, through a boggy meadow, and up a steep rocky hill.

School facilities.

Seven district schools are available for children of the three townships visited; only two of the seven are one-teacher schools. In one school the children can advance as far as the eighth grade; in three, to the seventh; and in the others no higher than the sixth. The schools have not adapted themselves to farm life; none is equipped for domestic science; none is emphasizing improved methods of farming.

Teachers' salaries are low; of the 13 teachers in three townships, 8 were paid at the rate of \$40 per month, a total of \$200 for the five months' term; 5 received only \$30 a month, or \$150 for the entire school year.

The schools are well built, ceiled, painted, and in good repair. It was interesting to learn, however, that in order to build the two newest schoolhouses, no school was held for a two-year period in these two school districts, this being the only way funds could be diverted for that purpose.

School equipment is meager and antiquated. Only three of the seven schools have desks and chairs of graduated size, each accommodating two children. The other four manage as best they can with long, old-fashioned, homemade benches, which are uncomfortable, can not be adjusted to the size of the individual child, and afford no desk space. Books, papers, etc., must be held on the lap, which makes it particularly difficult for the children to learn to write. Blackboard space is insufficient, and two of the schools have neither a map nor a globe. Schoolbooks are another of the teacher's problems, the law requiring them to be furnished by the parents, who are often unable, sometimes unwilling, to provide a complete set. In a remote one-teacher school only two boys were supplied with the full collection

of books used in their classes. At another school, the teacher reports, they scarcely average two books to a class.

All the schools are heated by unjacketed wood stoves. The older boys keep the stove supplied with wood, chopping it during school hours; the boys work in relays for a week at a time, losing most of the morning lessons during their "turns."

Only two of the seven schools have libraries, in spite of the ease with which one can be secured. The State school law provides for the establishment of permanent school libraries at rural schools, on condition that the local district raises \$10; \$10 is then added by the county and \$10 by the State, and the fund of \$30 used to purchase books from a list approved by the State superintendent. The State library commission at Raleigh also has available for loan a traveling library which costs the borrowers only the freight both ways.

Sanitation.

Sanitary conveniences are lacking. One only of the seven schools is provided with a privy for the girls. The other schools have no toilets whatever—a particularly dangerous condition in a country where the spring, so easily polluted, is the common source of drinking water. All the schools obtain their drinking water from springs. A State bulletin¹ stresses the importance of privies at the public school as follows:

In a few sections of our State it is a regrettable fact that at some schoolhouses no provision whatever is made for the proper care or disposal of this excrement. Near-by woods and undergrowth form the only means of privacy. As a matter of fact, it is really more essential that a school be provided with at least two good privies than that it have desks or even a stove. There is absolutely no argument in favor of not having good privies. The absence of such sanitary precaution jeopardizes the lives and health of the teacher, children, and community. Many typhoid fever outbreaks are spread directly by this means.

The school and the community.

The mountain schools are not availing themselves of their opportunity to build up a community spirit and a well-knit community life in their districts. The school building is all too rarely used for purposes other than the school session. Where the church has no building of its own, the schoolhouse is used for church services; also for an occasional political meeting. Two schools have special Friday afternoon programs with recitations or a spelling match; in another there is a fairly well-organized literary society, which meets once a week. The fact that this is attended by the whole neighborhood emphasizes the need of social diversion. One teacher had once arranged a Thanksgiving celebration; another had an entertainment in October; and usually "school closing" is observed by some sort of special program. Aside from these few efforts, the schools contribute nothing to the social life of the neighborhood.

¹ Plans for Public Schoolhouses and School Grounds, pp. 69, 70. Issued from the office of the State superintendent of public instruction, 1914.

CHILDREN'S FARM AND OTHER WORK.**Field work.**

The mountain child, as well as the child of the cotton country, does his liberal share of the field work, besides his regular chores at the house and barn. Over nine-tenths of the children visited, 8 to 15 years old, and 11 younger than 8 years, worked in the fields along with their parents, helping to sow and harvest the crops; a number also helped in the timberland after the crops were laid by.

In a typical mountain family, the two boys of 11 and 14 help with the plowing and the planting of corn, dropping and covering the corn by hand, also helping to plant beans and potatoes. Through the summer they hoe corn, and in the autumn pull fodder, gather corn, pick beans, gather apples, dig potatoes, and help make sirup. Their two little sisters of 8 and 9 hoe corn irregularly through the summer and in the autumn pick beans, gather fruit, and help their mother dry the apples and beans for the winter. The children attend to most of the chores also—the boys cut the wood, see that the fires are kept up, and feed the stock; the little girls assist in the home work and help bring in wood and water.

Plowing in preparation for the crops, usually with a one-horse plow, is the work of the men and the older boys. Eighty boys from 9 to 15 years old were "regular plow hands."

Corn is usually dropped by hand; planters are rarely used, partly because of the expense and partly because they are less satisfactory on the steep hillsides. A father of eight children was asked why he had not bought a corn planter. "I already have eight," said he. Forty-two children, boys and girls, "dropped" corn.

Hoeing corn requires the services of the entire family. Practically all the children who did field work of any kind (234 out of 240), hoed corn—children of all ages from 5 to 15 and both boys and girls. Fatigue and some muscular soreness result from the constant striking with the hoe and from maintaining the same slightly stooping posture, grasping the hoe handle in the same position. As a rule, however, in the mountain country the corn field is a mere "patch" and the labor involved is spasmodic, a few days at a time or a few hours a day, unless the family is hard pressed with work after wet weather. In a family of 10 children, the 15-year-old "dropped and the others covered corn; and all who were large enough hoed corn." These children work from 8 in the morning until "just time to go after the cows."

Many children miss school for two or three weeks during the fall of the year to help with fodder pulling.¹ Two hundred children, 132 boys and 68 girls, pulled fodder; 33 were young children 6 to 10 years old, 82 were children under 12 years.

¹ For description of fodder pulling, see p. 51.

Children also help bring in the fodder. If it has been tied to the stalks to dry, the stalks are cut by hand, loaded into a wagon or sled, hauled to the barn, and stored away. This can be done only by the men and older boys. Where the fodder has been stacked in loose bundles, even a young child can shoulder and "tote a bundle or two of fodder" to the barn. The fodder is not heavy but rough to handle; it cuts and chafes the skin. Some farmers cut and shock the corn. When this method is followed, only the older children help. The stalks of corn and fodder are gathered, stacked lengthwise about a single stalk, and bound around with a blade of fodder—an operation involving some muscular strain and requiring strength, height, and arm reach, since the corn is tall and the stack large around.

Men and older boys also gather the corn and haul it in. The ears are broken from the stalk, tossed into a wagon or sled, and hauled to the barn. One hundred and four of the older children helped gather corn.

Wheat—a winter crop in this section—is commonly sown broadcast, usually by a full-grown man, sometimes by the older boys, who must be skilled and experienced in order to get the seed scattered evenly. Wheat is sown in the autumn and harvested the next summer. Cradling is the work of a grown man; the boys and girls help in raking, binding, gathering, shocking, and hauling the wheat.

"Grass," or hay, is cut by the men and older boys; mowing machines are occasionally used on "bottom land," but the old-fashioned scythe is necessary on the hillsides. Strength and muscular force are required to swing the heavy blade. In making hay, men and older boys rake the hay from the ground, toss it onto a wagon or sled, and haul it to a corner of the field, where it is forked off and built into one or more stacks, according to the size of the crop. A boy doing this kind of work must have strength enough to toss the hay onto the stack, and strength and height enough to handle the fork.

Tobacco curing, in the mountains, far from being the elaborate process found in eastern North Carolina, consists simply in hanging the leaves out somewhere in the open air to dry, under a shed or on the porch. When the leaves have been stripped from the stalk, they are tied in bunches and suspended from a pole to dry, then done up into twists by the children.

Making sirup from sorghum cane utilizes the labor of every member of the family. Eighty-seven children helped with the sirup making. The older boys help cut the cane and carry it over their shoulders to the cane mill or load it on a sledge drawn by a steer, and bring it down the hill. At the mill a child of 12 can feed the cane between the revolving cylinders, which crush the cane and

extract the juice. A younger child often drives the horse, mule, or steer which furnishes the power to run the mill. After the juice has been extracted from the cane, it is strained once or twice through cloth—"a flour poke"—into a long deep vat, in which it boils for from two to three hours. Women and older girls do the straining. While it boils, the thick scum which continually rises must be kept skimmed off, always the work of the older people; toward the end one of the grown women of the family must be on hand to judge when the proper consistency has been reached; after the sirup is taken from the fire it is strained once more; here again the older children help.

Chores.

The mountain child also has a variety of chores about the house and barn. The boys cut wood and bring it in, carry water to the house, take water and dinners to the men in the field, drive the cows, feed the stock, carry slops, run errands, and "go to mill" with corn, while the girls help with the cooking and sewing; cleaning, milking, and churning; drying beans; drying, bleaching, and canning fruit; and taking care of the chickens.

The boys' share in getting in the wood lies in cutting it into lengths with an ax or crosscut saw. Only a few days' supply is made ready at a time, and wood is cut all through midwinter in all kinds of weather. It is hard, fatiguing work, and involves the danger of injury with the saw or ax. Various odd jobs fall to the lot of the older boys, such as clearing ground, cutting briars, chopping weeds, and building fences; that is, simple rail fences, the common type in the mountain country.

If a child is undeveloped, he is spared the usual chores and occasional field work of the average country child.

Lumbering.

After the crops are laid by, the older boys help their father in the timberland, supplementing the scant family income by hauling to town a few loads of bark or pins. In the spring when the sap rises is the time for stripping the bark. After the tree has been cut down, a steel wedge is slipped between the bark and trunk, forcing the bark off in strips—the work of a grown man, sometimes done by a boy of 15 or 16 if large and well grown. The boy's share of the work usually is to pile the bark out of the way as it is stripped, for drying. In late summer the boys help load it on the sled or wagon. Boys also assist in guiding the sled, drawn by a steer, down the mountain to the wagon road; the bark is then ready to be loaded on the wagon and hauled to town. Working with the bark requires considerable strength and muscular force, and fatigue and muscular soreness result from such heavy work. Thirty-six boys from 8 to 15 years and two girls had helped peel bark and pile it out of the way.

Pins formerly were made of locust and brought a good price but, owing to the scarcity of that wood, the industry is no longer profitable and is reserved for odd times. Oak is now used. The tree, after being felled, is sawed with a crosscut saw into 14 to 16 inch lengths; a boy 10 years old can take one end of the saw, his father taking the other. Twenty-five boys and two girls, from 10 to 15 years of age, helped make pins. The actual making of the pins requires two persons, one with an ax and wedge, the other with a maul—home-made of tough, fine-grained hickory. The first worker dents the timber with his ax, then inserts the wedge and holds it in place, while the second deals the wedge a blow with the heavy maul, splitting the timber. The boy usually holds the wedge while the older man wields the maul; occasionally they change about to "spell" each other. As a rule, only a rather well-grown boy over 12 would help make pins, since he must have bodily strength and muscular power sufficient to handle the heavy maul and crosscut saw.

Usually only older boys are sent to town with a load of bark or pins, though two boys—11 and 13—have been making the 12-mile trip alone for three years, driving a double team of horses, mules, or steers. It is usually an all-day trip; the roads are bad, with deep mud holes, bowlders, etc., and are so narrow that considerable maneuvering is necessary in order to pass another team. The boy must have strength, muscular power, and size enough to hold back a double team down the steep hills; also alertness, for the main roads to town are traveled by cars as well as teams. The trip involves fatigue and muscular and nervous strain. Bark is driven to the acid factory at the county seat and unloaded by the driver; the factory buyer weighs it and pays by the cord, standard prices, according to whether it is chestnut oak, white oak, black oak, or hemlock. Pins are hauled to the railroad and sell as a rule for \$4 per 1,000.

Working hours.

Working hours on the mountain farm are irregular. So little land is cultivated that farm work is not continuous; on some days a few hours during the day, on others nothing but chores. During the busy seasons all hands put in a full day's work in the field; but these seasons are concentrated into a few weeks—during spring and autumn plowing, in the summer after wet weather, and at harvest time. Although each family has its own custom, usually a workday begins about 6 in the spring and summer, 7 or 8 in the autumn, and ends at sundown, with an hour off for dinner. Some families prefer to "lie late" in the morning to avoid the heavy dew, and then work until dark instead. The children of one family work from "dawn to dark" when not in school; they are up before dawn, do the chores, feed stock, gather fruit, carry slops, do the milking, then go to the field.

Wages when at work away from home.

As a rule, the children doing farm work, work only on the home farm, helping their own family. A few of the older children, usually over 12, also work out for wages, often for relatives, a day or two at a time and not more than two or three weeks during the season, when work on their own crop permits. Some instances were found of younger children working out. A 10-year-old boy hoed corn about 10 days last summer, making 50 cents a day for a 10-hour day. A boy of 11 hoed corn for his uncle during the past two summers, five or six days each summer, at 25 cents for the regulation 10-hour day. Two boys of 8 and 10 hoed corn and helped with the fodder at 25 cents per day. A boy of 11 plowed, hoed, helped with the hay, corn, and sirup for a few days at 40 cents a day.

RECREATION AND SOCIAL LIFE.

Social life in the mountains is extremely limited, in most neighborhoods resolving itself into attendance at "preaching" once a month, Sunday school "rally," and county fair once a year, and visiting among the neighbors in the immediate vicinity.

Even church is often inaccessible and out of the question in rough weather. A mother of a poor tenant family high up on a mountain top laments that her children never get to Sunday school or "preaching"; on Sunday she reads the Bible to them and has the blessing, and "that's the best I can do," she said. Another mother takes her children to church once a month and to Sunday school occasionally. They have no way to go, however, unless they walk and it is "much too worrisome a trip with children." A family, out of reach of church in any direction, explained that they used to have preaching over across the mountain, but not enough people went, so the preacher refused to come any more.

Where the children can get to Sunday school their enjoyment of it is intense. A little 10-year-old girl has kept all her Sunday school cards from last year and this, and has them pasted on a piece of cardboard and tacked up on the wall. The annual Sunday school "rally" is one of the few community gatherings to which all the families take their children and their dinners, and spend Saturday and Sunday at the church, singing and visiting and listening to the "circuit rider." Elaborate preparations are made; hogs and beef are butchered, chickens killed, all the best jellies and preserves are brought out, and bread and cake baked in abundance for the picnic dinner spread beneath the trees.

The schools, as has been said, are used very little for social purposes. One school until last autumn had never had an entertainment as far back as anyone could remember, another had planned for one last year, but it rained. At a more enterprising school, however,

was found an interesting and flourishing literary society, so successful that it is filling the schoolhouse at its Friday night meetings. At one of the meetings, after several recitations by the younger children, six of the older boys debated cleverly on "*Resolved, That Washington deserves more credit for defending America than Columbus for discovering it.*"

Lack of organization, of community interests, and of "teamwork" have long been characteristic of the mountain people. Aside from the few men who maintain membership and a lukewarm interest in the Masons, Odd Fellows, or "Juniors," there are no clubs of any sort in the neighborhoods visited. In less than one-tenth of the families was there any member of the family belonging to a social organization.

Books are seldom bought and, as a rule, only from traveling agents; a very miscellaneous collection of reading matter is secured in this way. Newspapers and magazines are rarely found in mountain homes. Over half the families visited take no periodical of any sort. The county paper is subscribed to most frequently; about one-fourth of the families were taking farm papers. Only 9 of the 231 families visited had subscribed to any of the woman's magazines.

One father would take a newspaper, but can not spare the time to make the 11-mile round trip to the post office across the mountains—almost a day's journey. A magazine, particularly if illustrated, is treasured highly. A 14-year-old boy is "so fond of reading that when he has a book or paper he won't go to bed until he has read it."

The smaller children, as well as the older ones, are in need of means for recreation. The play spirit is conspicuously absent. Toys are uncommon; the few dolls of the neighborhood are too highly prized for common use as playthings. A little crippled girl has two Christmas dolls, still in the boxes in which they came two or three years ago, tacked up against the wall.

The isolation of the mountain people, particularly the women and children, their lack of intercourse with their neighbors, with the townspeople, and with the outside world can not fail to impress the visitor. Bad roads and lack of conveyances, together with scarcity of telephones and absence of mail service close at hand, are largely responsible for cutting off the family from outside communication. The rural free delivery has not yet penetrated to the neighborhoods visited. They have instead the "star route" system by which the mail carrier travels only the main roads between post offices. Families living at a distance from the post office find it difficult to make the journey for their mail with any regularity. One family, at the end of a steep mountain trail, visited September 5, had not been to the post office for mail since July.

Trips to town are infrequent. Town shopping for the whole family is largely intrusted to the "men folks," and their many natural blunders in selections of feminine apparel are accepted with stoical fortitude. "There's no call for me to go to town," said one woman. In a probably typical family the father goes to town every week or two, the mother once or twice a year, and the older children about as often as the mother, though they "are like their father and would go every week if they had a chance."

Often it is the difficulty of taking young children that keeps the family so closely at home. A mother, who has not been to town for three years, "likes to go, but with such a crowd of children (seven) she can't figure how to take them all along." A mother at the end of a lonely trail has never been to town in her life; she has not been to the country store—5 miles away—since her oldest girl (now 15) was a baby, but "aims to go next spring if she lives and nothing happens, and do her own trading again." A mother who leads a lonely life, with her husband off on "public works" and the children at school, has never been to a fair or a show in her life and never gets away from home at all except to her nearest neighbors, a quarter of a mile down the mountain. A bad trail, merely a sledge road straight up the mountain, leads to their cabin, the last of that cove; it is rarely that anyone comes along that way. Another has never seen a railway train in her life; she went to the county seat once with her husband—15 years ago, the day after she was married—but the train was late, and it was so cold that they could not wait and had to come back to the mountains without seeing it. Her husband gets to town two or three times a year. None of the children has ever gone except the oldest, who went last year to "show the doctor her tonsillitis."

Few families have a conveyance of any sort; aside from three surreys in the neighborhoods visited, travel must be performed in a farm wagon or, more commonly, afoot. Sometimes the wagon, loaded with pins or bark, drawn by a pair of oxen, is accompanied to town by various members of the family who, though walking, can easily keep pace with the slow-moving oxen. One family that seldom leaves the neighborhood had "planned on going" to the county fair this year, but could not get room in the neighbor's wagon and owned no team.

Few of the families visited expressed any desire to move to town. A mother of 13 children was proud of the fact that "not one of my children wants to go to town to live." Of one man strongly averse to town it was said "the quickest he can get away is too long for him."

Some of the mountain families visited had lived elsewhere and returned to the mountains. A family consisting of father, mother, and four children are all glad to get back from the mill village.

The mother thought she could not endure spending her life there where she had to put each child to work as soon as possible. She had been so sorry for the country people who had sold out before going to the mill and had no home to come back to. Another family had tried the mills for three years but were glad to get back to the mountains, "where there is freedom and enough to eat and burn." In another family the children all liked the mill town better than the mountains, and the family would have stayed there, but contracted measles; one boy died, and the grandfather was ill for four or five months. Another mother has no use for a cotton mill, "you burn up in there with no air; the children never got to sit down from the time they went in in the morning till they came out at night, 11 hours."

On the other hand, the hardships of the mountains have so impressed themselves upon the lives of the people that some are anxious to leave for the sake of the children, if not for themselves. A mother in a lonely cabin on the mountain top does not like the mountains, but "a poor man can't buy a river farm." She "wants to move down lower because of schooling and preaching."

Another woman on one of the best farms in the country, who was herself reared in town, wishes to move back to town next year that the children may be near good schools and get to church and Sunday school and have the doctor at hand. Also, she misses the fresh meat and the good things one can buy in town. One mother complains that "a body has to work mighty hard to live and hardly can live in this country." Another "would rather live in a smoother place than in this steep country, but not in a city; it's too binding in"; she wants to "make her own beans and roasting ears."

One family is divided among itself: the father has no use for towns, the mother would not live there unless she could have her garden and chickens; she "would rather live on a farm if she had a real farm, but gets tired of these mountains where you can't raise anything." The two oldest girls are not satisfied with the old cabin on the creek and want to move to town, and the boys, too, "want to go where they can see more."

Rural communities such as have been described in this mountain county, where isolation and a lack of community spirit are characteristic, are especially in-need of such plans as the State superintendent of public instruction and the executive secretary of the State bureau of community service are developing in connection with a recent act of the legislature to provide for the incorporation of rural communities.¹

¹ See p. 109.

PART IV.

SUMMARY AND CONCLUSIONS.

The findings of these surveys of child care in a typical lowland or cotton-raising county and in a typical mountain county of North Carolina are significant not only for the counties studied, but also for rural areas in many of the southern States.

The population of the areas studied is uniformly native-born American of native parentage—in the lowland county about evenly divided between the whites and negroes, and in the mountains exclusively white. In the lowland county, farming is pursued largely under a system of tenancy, two-fifths of the white and three-fourths of the negro farmers visited being tenants. Farm acreage is small; about half the white and over four-fifths of the negro farms visited are “one-horse” farms; that is, worked with one horse or mule, and with only approximately 25 acres in cultivation. Cotton is the “money crop” and is an expensive crop to produce. The small tenant operates his farm under the heavy handicap of the crop lien system.

In the mountain county, farming, on account of the topography of the land, is attended with difficulties. Although nearly every man considers himself a farmer, he farms on a small scale, with the object of raising sufficient food for his family rather than producing a crop for market. The average farm occupies some 50 to 100 acres with only 10 to 25 acres of improved land. The scant income derived from farming must be supplemented by the sale of timber products at the county seat, by mica mining, and by “public works” at the sawmill, kaolin mine, or lumber camp. Although there were a few families of “renters,” tenancy is not nearly so common as in the cotton country, and the majority of families own their homes and the land on which they live.

The children's home environment in the lowland county families visited varies widely according to the economic circumstances of the family, the children of the landowners having more comfortable as well as more healthful surroundings than the tenant's children. Lack of sufficient house room at many tenant homes is perhaps the most serious housing defect, resulting in overcrowding, particularly of sleeping quarters. Sanitation is a serious problem; more than half the homes of white families and four-fifths of the negro homes

have no privy of any kind; at a number of homes, drinking water is obtained from a dug well—obviously an unsafe source of supply, particularly in a district where soil pollution is widespread.

The typical mountain home is picturesque rather than comfortable. Certain housing defects are common; notably lack of sufficient house space, which results in overcrowding, especially of the sleeping rooms; insufficient light, many of the older cabins having no windows other than heavy wooden shutters, which, when closed, leave the room quite dark; and the difficulty of heating loosely constructed cabins and rough board houses during the severe winter weather. Sanitation is primitive. Nine families in 10 have no toilet of any description. The spring, the common water supply, is dangerously subject to pollution because of the absence of privies.

Both counties have a strikingly high maternal death rate from causes pertaining to childbirth—in the lowland county, 41.5, and in the mountain county, 21.9 per 100,000 population, as compared with the rate, 15.2, for the entire area of death registration.¹ In the lowland county, though the rate for white women, 17.3, is somewhat higher than the rate for the death registration area, the high total death rate is due to an alarmingly high rate, 93.9, among negro women.

An urgent need for provision for maternity care was one of the most important findings of the survey; facilities for guarding the health and life of the mother at childbirth are totally inadequate in the rural communities visited. In the lowland county, though two-thirds of the white mothers were attended in childbirth by a physician, one-third of the white mothers and over nine-tenths of the negro mothers had employed a negro midwife. A physician was often out of the question for various reasons such as cost, distance, scarcity of telephones, and bad roads during part of the year. It was evident from the testimony of the mothers that the midwife was a precarious dependence when complications had arisen. Ample facilities for hospital care are available at the county seat, from 4 to 14 miles distant, where two hospitals are located. This county has also made an excellent beginning in public-health nursing, with a nurse for white and one for negro women; their time, however, is so largely occupied at the county seat and in the surrounding mill villages that they are unable to render any appreciable amount of nursing service in the rural districts of the county. Few of the mothers visited had had any prenatal advice or attention. Nursing care at confinement, except in a few families who had engaged a midwife as nurse in addition to the doctor, consisted of the untrained services of relatives and neighbors; none of the mothers had engaged

¹ Mortality Statistics, 1915, p. 59. U. S. Bureau of the Census, Washington, 1917. Sum of the rates there given for "puerperal fever" and "other puerperal affections."

a trained nurse, and only two a "practical" nurse. The majority of the mothers also failed to receive adequate supervision during their convalescence after childbirth.

In the mountain county no physician is resident in any of the three townships of the survey, and the families live from 4 to 25 miles from the nearest doctor. There is no hospital within the county, the nearest being located at the county seat of the adjacent county, reached once a day by mail stage across the roughest of mountain roads. There are no trained nurses in the county, and patients are dependent upon the well-meaning but untrained services of relatives and neighbors. Trained nursing in confinement was wholly lacking. No one of the mothers visited had had the services of either a trained or "practical" nurse during confinement; some few had been nursed by attending midwives; the others, by relatives, neighbors, or friends. Prenatal care is practically nonexistent; more than three-fourths of the mothers visited had had no advice or supervision whatever during their pregnancy. Over half the mothers were attended in confinement by a neighborhood midwife. Inability to secure medical attention at childbirth had sometimes resulted disastrously, according to the testimony of the mothers. Postnatal visits are rarely made by the physician, but where a midwife lives close by, which is often the case, it is customary for her to "drop in" every day or so in passing.

The Children's Bureau, in a publication on Maternal Mortality,¹ suggests that the following plan is essential in order to secure adequate medical and nursing care for mothers and babies in a rural county:

1. A rural nursing service, centering at the county seat, with nurses especially equipped to discern the danger signs of pregnancy. The establishment of such a service would undoubtedly be the most economical first step in creating the network of agencies which will assure proper care for both normal and abnormal cases. In the rural counties in the United States which already have established nurses, the growth of this work will be watched with the greatest interest.

2. An accessible county center for maternal and infant welfare at which mothers may obtain simple information as to the proper care of themselves during pregnancy as well as of their babies.

3. A county maternity hospital, or beds in a general hospital, for the proper care of abnormal cases and for the care of normal cases when it is convenient for the women to leave their homes for confinement. Such a hospital necessarily would be accessible to all parts of the county.

4. Skilled attendance at confinement obtainable by each woman in the county.

In the lowland county, the most immediate need in respect to maternal care seems to be for the employment of a rural nurse for the white and one for the negro women of the rural sections of the

¹ Meigs, Dr. Grace L.: Maternal Mortality from all Conditions Connected with Childbirth in the United States and Certain Other Countries, p. 27. U. S. Children's Bureau Publication No. 19. Washington, 1917.

county, which are now out of reach of the public-health nurses at the county seat. Prenatal care and assistance at confinement, also postnatal supervision and advice as to the care of the young baby, would be important phases of the work of the rural nurse. In the mountain county, a cottage hospital at the county seat would prove of value to the mothers within a radius of a few miles; while roads continue to be as poor as at present, however, any facilities at the county seat will be inaccessible to the greater part of the county's rural population. There is an obvious and immediate need for rural nurses, to visit the mothers in their own homes. This county at present, unlike the lowland county, has no public-health nurse. The ways in which a nurse could be of help to mothers in this district have been indicated.

Although even one public-health nurse in a county can accomplish much along educational lines as to the proper maternity and infant care and the care of the school child, on account of the territory to be covered, one nurse alone obviously can not meet all the needs of the rural mother and child. The ideal which has been attained in a few counties is the division of the county into smaller districts with a county nursing service and community nurses; in a small district the nurse can do bedside nursing and nursing at the time of confinement, as well as more general educational work. Methods of initiating a rural nursing service on the county plan are described in a recent publication of the Children's Bureau ¹ as follows:

In certain counties the work was established at first through private subscriptions; enough money was raised in this way to support a nurse for a period of 6 to 12 months; after the value of the work had been demonstrated the county authorities appropriated money to continue it. This was in recognition of the fact that public-health nursing is not a charity but is a measure for health protection to which all the people of the community have a right. In one county in a Middle Western State a federation of women was formed which included all the organizations of women in the county—women's clubs, ladies' aid societies, and parent-teacher associations, as well as small neighborhood groups of rural women. Largely through the efforts of this federation a tax was levied by referendum vote and a large sum of money provided for health work. Two nurses are now employed by this county.

In many counties the nursing service has been established through the employment of a nurse for the rural schools, and this method has proved very successful. In other counties the nurse has begun her work as a tuberculosis nurse; in others as an assistant to the county health officer. Whatever the beginning of the work, the nurse soon finds that the assistance which she can give to mothers in the care of themselves and of their babies is one of its most important developments.

In planning a rural nursing service two things are essential:

1. Every effort should be made to get the right nurse. The nurse employed should have had training in public-health or visiting nursing such as is given now in many training courses, and should also have practical experience. Nurses who have had hospital training only are not fitted to carry out public-health nursing successfully.
2. Ample provision must be made for transportation through the county.

¹ Moore, Elizabeth: *Maternity and Infant Care in a Rural County in Kansas*, pp. 49, 50. U. S. Children's Bureau Publication No. 26. Washington, 1917.

The communities visited in the lowland county have a low rate of infant mortality—48 per 1,000 live-born white children, a loss of 1 child in 20, and 64 per 1,000 live-born negro children, a loss of 1 child in 16. The considerably higher death rate among negro infants, as well as the previously mentioned higher maternal death rate among negro mothers, indicates a need for further efforts directed toward prenatal, maternal, and infant care for the negro population. The mountain townships visited have a considerably higher—that is, less favorable—rate of infant mortality than either of the rural sections so far studied by the Children's Bureau. Of 1,107 children born alive at least one year before the agent's visit, 89 had failed to survive their first year—an infant mortality rate of 80.4, a loss of 1 child in 13 as compared with a rate of 55 in a Kansas county studied by the bureau,¹ and 48 in the lowland county of this survey. Even in the mountain county, however, the rate of infant mortality is low as compared with the rate in cities and towns.

In the mountain county, prematurity was the most important cause of infant loss. One child in four that failed to survive its first year had been prematurely born. Moreover, nearly half the infant deaths had occurred within the first two weeks. This is additional evidence of the urgency of prenatal care for the mother, additional evidence also of the need for a rural nurse who as one of her duties would advise the mother as to prenatal and infant care.

It is significant that the comparatively low rate of infant mortality of the rural communities visited, in both the lowland and the mountain county, is coincident with universal breast feeding of infants. In the lowland county, all the 78 white babies for whom feeding histories were secured had been nursed during the first five months; of the 86 negro babies, all were breast fed during their first two months; in the mountain county, every one of the 115 babies for whom feeding histories were secured had been nursed from birth up to at least the ninth month of age. In both counties nursing is usually continued well into the second year. In addition to breast feeding, however, the babies are often indulged from an early age in tastes of family diet.

The interest shown by the mothers in having their children examined at the children's health conferences held by the Children's Bureau in the lowland county, suggests the desirability of a periodic examination of infants with opportunities for informal advice to the mothers as to infant care. Such examinations might be held by physicians, with a public-health nurse in attendance, at accessible centers scattered through the rural sections of the county. The nurse might also establish her headquarters at these centers where

¹ Maternity and Infant Care in a Rural County in Kansas, p. 41.

she could be available for consultation with mothers who need her advice and from which centers she would visit homes and schools of that district.

The rural child is subject to the common diseases of the city child and is handicapped by the lack of medical care in sickness. In the absence of a physician within a reasonable distance, and of a county nursing service, the mother is thrust upon her own resources in case of sickness, and must rely largely upon home remedies. In the lowland county, patent remedies, especially croup and cough "cures," liniments, soothing and teething sirups, remedies for women's diseases, and for constipation have a widespread sale. A recent "secret remedies" bill recommended to the State legislature of 1917, by the State board of health, failed of passage. In the mountain families, and in some of the white and most of the negro families of the lowland county, "doctoring" with native herbs is customary. A periodic physical examination of the school children, as proposed by the State board of health, should be an important step in the checking of disease.

Family diet from the point of view of the growing child leaves much to be desired; it is probable that the heavy diet of the average family, with an excess of fat and partly cooked starch, and a deficiency of fruit and vegetables except during the summer months, together with the custom of indulging children in promiscuous habits of eating, is a factor in the indigestion which according to the mothers is one of their chief difficulties. Diet is more varied in the mountain than in the lowland county, but is still scarcely adapted to the needs of the child.

There is a very obvious need in these rural communities for increased attention to educational opportunities for the children. Under the terms of the school law, attendance is compulsory for children between 8 and 14 years for only four months of the school term, but even this is practically unenforced. The school term is short—commonly five months for white and four months for negro schools—and this, together with irregular, spasmodic attendance makes progress difficult. The rough roads, bad weather, and need for help with the farm work are responsible for the irregular attendance. Between the ages of 10 and 20, approximately 1 white child out of 10 and 1 negro out of 3, in the lowland county, had not learned even to read and write; in the mountain families, this rate was approximately 1 out of 3.

In the lowland county communities, two of the white school districts have voted the special school tax and have well-built, well-equipped schoolhouses. Three of the white schools, however, and all the negro schools are one-room, one-teacher schools. School sanitation is notably deficient. Only one of the five white schools has one toilet for boys and one for girls; two have one for the girls only,

while two of the white schools and all four negro schools have no toilet facilities whatever. In the mountain townships visited, most of the seven school districts have new buildings, painted and in good repair; school equipment, however, is meager and antiquated. Sanitary conveniences are lacking. Only one of the seven schools is provided with a privy for the girls, and the other schools have no toilets whatever, a particularly dangerous condition since the spring is the source of drinking water.

The children of the family performed a considerable share of the farm labor on their home farms, working in the fields along with their parents, helping to sow and harvest the crops, a number in the mountains also helping in the timberland after the crops were laid by. In the lowland-county communities, two-thirds of the white children and three-fourths of the negro children 5 to 15 years old, in addition to doing a variety of chores, helped in the fields, cultivating and harvesting the crops, particularly chopping and picking cotton and hoeing corn. In the mountain country, farm work is irregular, since little farming is done, and usually the busy seasons with all hands putting in a full day's work are concentrated into a few weeks.

Although early training in habits of industry is desirable, and though a reasonable amount of farm work would scarcely injure a healthy child of sufficient size and strength, children's work on the farm, such as is described in this report, has certain objectionable features, the most serious of which are the undue strain upon the strength of the child, the interruption of his schooling, and, in the lowland county, the ill effects upon his health of prolonged exposure to the heat of the sun.

In the lowland-county township, opportunities for recreation and social intercourse are more numerous than in many rural communities. School entertainments are given occasionally, and other means of social diversion are popular, such as picnics, ice-cream suppers, swimming parties, individual entertaining and visiting, and Saturday trips to town. Clubs and lodges of various sorts are found. Three-fourths of the white families subscribe regularly for some sort of publication, usually weekly rural editions of the county papers. Migration from country to town is rare, and the average family is satisfied with country life.

Negro families also have ample means of social intercourse. Church is their common meeting place and frequent services are held. The schools occasionally arrange an entertainment to raise money for some needed article of equipment. Clubs and societies are common among the adult negroes, and are usually organizations which pay a benefit in case of sickness. Trips to town are infrequent, due to a lack of mules and conveyances. The negro family also is genuinely content with country life.

In the mountains facilities for recreation are extremely limited and badly needed. Social intercourse consists largely of attending "preaching" once a month, county fair once a year, and an occasional visit to the neighbors in the immediate vicinity. There is a marked lack of community interests and of social organizations of any sort. Books, newspapers, or magazines are seldom found in mountain homes. Few families have a conveyance of any sort, hence trips to town are rare, especially for the women and children. Here, as in the lowland county, few families expressed a desire to move to town. Some, however, were eager to leave for the children's sake—to be more convenient to school, church, and doctor.

PART V. APPENDIX.

THE STATE AND ITS RELATION TO CHILD WELFARE.

STATE BOARD OF HEALTH.

Through an exceptionally effective, progressive-minded State board of health, alive to the needs of the rural population, which constitutes a large portion of the inhabitants of the State, much is being accomplished along the lines of public health and sanitation.

ORGANIZATION.

With an original annual appropriation of \$100 in 1877, the State board of health soon made itself a necessary factor in the welfare of the State. In 1909 the services of a full-time health officer were secured. Since then public health work has developed into a well-organized department with an executive office, State laboratory of hygiene, State sanatorium and bureau of tuberculosis, and bureau of engineering and education, vital statistics, rural sanitation, soil pollution, and accounting. In 1916 the State ranked twentieth in per capita expenditure for public-health work, \$0.026, the expenditures of the other States ranging from \$0.0073 in Tennessee to \$0.1521 in Florida, according to compilations by Dr. Charles V. Chapin, for the American Medical Association.¹

BIRTH REGISTRATION.

The "model law" for birth registration went into effect in North Carolina July 1, 1913. Its enforcement has been particularly difficult in this State because of the rural character of the population, and also because of the large proportion of births attended by midwives. In June, 1916, registration of deaths was considered complete enough to warrant the inclusion of North Carolina in the death registration area of the Bureau of the Census. Recently (December, 1917), the inclusion of the State in the census area of birth registration marks the culmination of the effective efforts of the State board of health toward improved statistics.

As a test of birth registration in the areas covered by the survey, all births which had occurred in 1915 (found by house-to-house visits during the course of the inquiry) were checked back to the

¹ Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, p. 17.

records at the county seat. Of the 61 births occurring in that year in the township of the lowland county, 48, or 79 per cent, had been registered. In one of the mountain townships, none of the 21 births occurring in 1915 was registered; the registrar appointed for the township had refused to serve and the office was allowed to remain vacant during the entire year. Another mountain township had registered 21 out of 23 births, and the third, a small, remote township 20 miles from the county seat, had registered every one of its 13 births.

EDUCATIONAL CAMPAIGNS.

To interest the general public in hygiene and sanitation, the board of health has in constant use a portable motion-picture outfit suitable for work in rural districts, a series of illustrated stock lectures, traveling exhibits, and an extensive press service. The motion-picture health films reach, among others, a large class of people who read very little, and these films present to them in simple form the principles of sanitation and disease prevention. The picture show makes the rounds of rural schools in an automobile, which carries an extra engine to run the lights and furnish power for the pictures. A "Charlie Chaplin" movie lends variety to the health films and a victrola furnishes music during the changing of reels.

Outfits of lectures on health subjects, illustrated by a set of lantern slides with a stereopticon lantern, are furnished free of charge to Y. M. C. A. workers, teachers, preachers, and others interested in public health. The traveling exhibit presents the more important health problems by means of charts and models, usually accompanied by a demonstrator. The press service sends out to newspapers of the State a daily article of from 200 to 300 words, publishes a monthly bulletin, and issues special pamphlets.

HOOKWORM, TYPHOID, AND PELLAGRA CAMPAIGNS.

In a five-year campaign ending May, 1915, the Rockefeller Sanitary Commission, now the International Health Commission, examined 267,999 citizens of the State for hookworm infection, and treated 95,618 infected citizens, also improving 1,796 privies.¹

The State bureau of rural sanitation has reached 21 counties with its typhoid vaccinations and given three complete vaccinations to 100,000 people, vaccinating an average of 4,761 persons in each county—from 16 to 20 per cent of the population of the counties.²

A pellagra campaign in one county has been fruitful of lasting results, convincing the public of the value of a more varied dietary.

¹ Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, p. 61.

² Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, p. 45.

SOIL POLLUTION WORK.

This work, which has for its object the control of diseases spread through pollution of the soil, is a recent development and so far has been conducted in only one county. The method followed, as described in the annual report of the State board of health is "to visit each and every home in the county and demonstrate to the people the ways in which this class of diseases is spread and to interest them in providing sanitary privies as a preventive measure. Also, an important part of the campaign is to examine and give treatments for hookworm disease and vaccinations to prevent typhoid fever."¹

POSTGRADUATE CLINICS.

One of the most interesting features of the State board of health program has been the development through the cooperation of the State board of health and the State University of a home postgraduate course in children's diseases for the doctors of the State. The fundamental principle consists in bringing the teacher to the class instead of sending the class to the teacher. The plan was initiated in 1916 in two counties. Two experts were obtained to bring a six-weeks' course to 80 rural physicians, the expense of from \$2,000 to \$2,500 being shared by them. The amount which each physician paid was about \$30, whereas, had he gone to any of the large hospital centers for such a course the expense would have amounted to from \$300 to \$400, including travel, lodging, and the loss of income during absence. The course consisted of a lecture and clinic one day a week in each of six towns of the counties selected. Physicians were allowed to bring their own patients for consultation, and so urgent was the demand for the clinics that they will doubtless be repeated another year, the subject to be chosen by the subscribing physicians.²

PUBLIC-HEALTH NURSING.

The State sanatorium and bureau of tuberculosis of the State board of health has been instrumental in securing a director of public-health nursing for the State, in cooperation with the Metropolitan Life Insurance Co., which pays one-half her salary and expenses. The Metropolitan company has also cooperated in local nursing activities, awarding five scholarships in public-health nursing in the University of Cincinnati. In 1916 a three-days' conference of the 35 public-health nurses of the State was held at the State sanatorium; one result of this conference was a great stimulation throughout the State of interest in public-health nursing. By February, 1918, there were in North Carolina 65 public-health nurses³ (more, it is reported,

¹ Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, p. 46.

² Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, p. 28.

³ The University of North Carolina News Letter, Vol. IV, No. 13, Feb. 20, 1918.

than in any other southern State). They were supported by public funds, mill companies, women's clubs, philanthropic groups, churches, and lodges, aided by the Metropolitan Life Insurance Co. The demand for public-health nurses is greater than the supply. To meet this demand, the State board of health, in cooperation with the University of North Carolina, is planning a training school for public-health nurses.

REGISTRATION OF MIDWIVES.

A recent act to prevent blindness in infancy,¹ passed by the State legislature of 1917, requires the registration of midwives with the State board of health "in order that the prophylactic solution and necessary instructions may be furnished them." A penalty of from \$10 to \$50 is prescribed for midwives failing to register. Although this is an important step in the right direction, as yet no provision has been made for an examination or supervision of midwives.

PREVENTION OF BLINDNESS IN INFANCY.

An act of the legislature of 1917² makes it "unlawful for any physician or midwife practicing midwifery in the State of North Carolina to neglect or otherwise fail to instill or have instilled, immediately upon its birth, in the eyes of the new-born babe two drops of a solution prescribed or furnished by the North Carolina State Board of Health."

QUARANTINE FOR INFECTIOUS DISEASES.

The reporting of infectious diseases to the State board of health was made compulsory by an act of the legislature of 1917,³ which also provides means for control and supervision of such diseases. By the terms of this act, it is the "duty of every physician to notify the county quarantine officer of the name and address, including the name of the school district, of any person living or residing, permanently or temporarily, in the county about whom such physician is consulted professionally and whom he has reason to suspect of being afflicted with whooping cough, measles, diphtheria, scarlet fever, smallpox, infantile paralysis, typhoid fever, typhus fever, Asiatic cholera, bubonic plague, yellow fever, or other diseases declared by the North Carolina State Board of Health to be infectious and contagious, within 24 hours after obtaining reasonable evidence for believing that such person is suffering from one of the aforesaid diseases." In cases where the patient is unattended by a physician, the duty of notifying the quarantine officer falls upon the parent, guardian, or householder in the order named. It is the duty of the

¹ Acts of 1917, ch. 257, sec. 8.

² Acts of 1917, ch. 257, sec. 3.

³ Acts of 1917, ch. 263, sec. 7.

county quarantine officer to report cases of the above-mentioned diseases to the State board of health within 24 hours after the disease has been reported to him. The State board of health is empowered to make such rules and regulations as may be necessary for the supervision and control of these diseases. Persons willfully violating the law or the rules and regulations adopted by the board of health are guilty of a misdemeanor and subject to fine or imprisonment.

PHYSICAL EXAMINATION OF SCHOOL CHILDREN.

Considerable attention is now being directed to the care of the rural school child. Many localities have developed a complete program for supervision of the child's health and physical development during his years of schooling, with medical inspection of the children periodically, and a school nurse who visits in the homes and sees to it that the child receives the treatment which has been recommended. It has been proved that school medical inspection needs a school nurse to make it effective.

In this State the board of health has developed a "unit of school inspection" which so far has been carried on in six counties. The bureau of rural sanitation in the first 19 months of its existence inspected 206 schools, examined 15,751 children, found 7,390—almost half—to be physically defective in some respect and has been instrumental in having 10 per cent treated.¹ The value of this plan lies chiefly in arousing local interest through demonstration; it does not meet the need for permanent periodic examination of the children or for a permanent school nurse. Recently a unique compulsory State-wide plan has been devised by the board of health and enacted into law by the legislature² for the physical examination of school children at a minimum of expense. The teachers themselves will make the examinations according to a manual of instructions prepared by the State board of health and State superintendent of public instruction with the assistance of the United States Public Health Service. A record of each examination will be made on cards provided by the State board of health and transmitted to a physician in each county designated by the State board of health, who will notify the parent or guardian of any child with serious physical defects as defined by the State board of health to bring the child before him for a thorough physical examination.

According to the law it is compulsory for a parent so notified to bring his child before the physician. The physician will be compensated by the county commissioners for the examinations. Parents are then notified of any defect discovered and advised as to the treatment which the child should receive. Arrangements will be

¹ Sixteenth Biennial Report of the North Carolina State Board of Health, 1915-1916, pp. 45, 46.

² Acts of 1917, ch. 244.

made by the State board of health and State superintendent of public instruction with physicians and dentists of the county to treat school patients at a reduced cost, 20 per cent of which may be paid by the State board of health, provided the county commissioners will pay 20 per cent. This leaves only 60 per cent of the cost to be borne by the parents, besides securing for them a reduced rate for their children's treatment. The law provides that every school child shall be examined at least once every three years, and that the work shall be so planned by the State board of health and State superintendent of public instruction as to cover the entire State once in every three years.

"COUNTY UNITS."

Much of the work of the State board of health is carried on by State board of health agents in each county under the "county unit" system, by which the State and county share the expense of educational health work. Under this system school inspection "units" have been conducted, and typhoid, hookworm, pellagra, etc., have been dealt with.

Recently the State board of health, in cooperation with the International Health Board of the Rockefeller Foundation, has contracted with 10 counties of the State for a three-year program of health work in those counties. The program agreed upon is to consist, in each county, of units devoted to soil pollution, quarantine and disinfection, school inspection, life extension, and infant hygiene—all under the direction of a full-time health officer, and at an average yearly cost to the county of between \$3,000 and \$4,500. Definite contracts have been agreed upon and signed by the State board of health and representatives of the cooperating counties.

Public-health activities have reached a high degree of development in this State and are carefully and efficiently organized under the State board of health. The next step might well be the organization of a division of child hygiene; no doubt this important feature of the health program will be developed shortly by this State just as it has become an important part of the State boards of health in New York, Kansas, New Jersey, Ohio, and Montana. Such a bureau correlates the various health problems of childhood, such as the reduction of infant mortality, prenatal and infant care, medical inspection of schools, health of children in State institutions, and activities of children's conferences and clinics.

AGRICULTURAL ACTIVITIES.

Under the joint leadership of the State and Federal Departments of Agriculture, according to the terms of the Smith-Lever Act,¹ various organizations throughout the State are stimulating an interest in higher standards of farming and farm life.

¹ 38 U. S. Stat. L., Pt. I, p. 372 (act of May 8, 1914).

COUNTY AND HOME DEMONSTRATION AGENTS.

Ninety-six counties of the State, including the lowland county at the time of this survey and the mountain county recently, have a county agent who by demonstration and other methods interests the farmers of his county along the lines of improved methods of agriculture, farm management, marketing, purchase of supplies, and so forth.

Home demonstration agents to interest farm women in modern household economics are present in 58 counties, including the lowland county of the survey.

BOYS' AND GIRLS' CLUBS.

Clubs, open to boys and girls between the ages of 10 and 18, are proving an effective means of reaching the rural community through the child. These clubs are supervised by State agents, assisted by county agents, usually cooperating with school officials and rural teachers.

Boys' corn clubs were the first organization of this type. The corn-club boys raise an acre of corn, usually on their fathers' farms, and prizes are offered for the most successful corn-club member—based on the largest production at the lowest cost, with the best exhibit of 10 ears and the best essay on the year's work.

Boys' pig clubs are arousing interest in pork production, and are teaching the boys profitable methods of feeding, the value of the best breeds, and the home production of meat for the family.

Boys' and girls' poultry clubs are demonstrating poultry raising, handling, and marketing, the value of uniform product of high class for cooperative marketing, better care of poultry and eggs, and the increased revenue derived from better breeding and management.

Girls' canning-club work has developed into one of the most important features of the State relations service. . The girls plant and cultivate a garden of a tenth of an acre, and can the products for home and market. Prizes are awarded on the basis of the quality and quantity of the canned product, the profit shown by cost accounting, and a written account of how the crop was made.

FARMERS' INSTITUTES.

Farmers' institutes with lectures and demonstrations by experts, for both farmers and farm women, had been held in many counties during 1916, including the lowland county of this study.

This lowland county has been well organized for rural progress, with its county agent and home demonstration agent; its well-established corn, pig, poultry, and canning clubs for the boys and girls; a flourishing and stimulating county fair with an infant-welfare section; and, for some years past, sessions of the farmers' institutes.

The mountain county, on the other hand, at the time of the survey showed a total lack of community organization of agricultural activities—no county agent, no demonstration agent, no boys' and girls' clubs, no farmers' institutes throughout the county. The county fair is the only stimulus to improved farming and farm life, and even at the county fair the exhibit of farm products is meager and almost overshadowed by the cheap commercial amusements offered. The recent employment of a county agent is an important beginning toward an improved agricultural program for the county.

RURAL CREDITS AND FARM LOAN ASSOCIATIONS.

Ample facilities for extending credits to the farmer, thus combating the "crop-lien" and high-interest evils, have been organized and a variety of systems, State and Federal, devised by which the farmer can borrow money for land purchase or improvement.

The Federal farm loan act,¹ which affords an opportunity to secure long-time credit (from 5 to 40 years) at a rate of interest not to exceed 6 per cent, should not only help the farmer to secure capital, but, because the money will be borrowed through a local farm-loan association, should also stimulate cooperative enterprise.

The McRae rural credits bill,² passed by the 1915 legislature, provides for the organization of credit unions for short-time credit under the supervision of the State board of agriculture. Loans by the credit unions under this law can be made to members for the purpose of raising crops only and are loaned upon the name of the farmer. The rate of interest is limited to 6 per cent. In the autumn of 1917 there were 14 rural credit unions in the State—more, it is said, than in any other State.

COUNTY FAIRS.

The majority of the counties of the State, including the two counties visited, held county fairs in 1916. The county fair has won an assured place for itself in the activities for rural progress, affording as it does an opportunity for the farmer to compare his results with the best achievements of the county; and with the produce of his neighbors who face the same problems and surmount the same obstacles that he must reckon with. Farm women also benefit by exhibits of household products—jellies, jams, preserved fruits and vegetables, cakes, bread, needlework, and knitting.

In this State, as elsewhere, the county fair has also been found an excellent opportunity for presenting to the mothers the newer ideals in child care and giving them the advantage of expert advice as to the physical development of their children. A number of counties have

¹ Farm Loan Act, act of July 17, 1916. 39 U. S. Stat. L., p. 360.

² Acts of 1916, ch. 115.

introduced baby conferences of various types as a feature of the fair with a growing tendency to abolish, or at least to minimize, the competitive element, which was a prominent feature of the earlier baby contests. The babies are weighed and measured by competent physicians who point out defects to the mothers and give them constructive suggestions for improving the child's general health. Free literature on infant care is frequently distributed. Baby "shows" of various sorts were held in connection with county fairs in a number of counties, including the lowland county of this survey, which has had one for three years. The mountain county would, no doubt, also find the mothers interested in the introduction of such a feature.

COMMUNITY SERVICE LEAGUES.

The activities of the State bureau of community service have been of especial significance to the rural districts of the State. Under the leadership of this bureau, a number of rural neighborhoods have been organized into "Community Service Leagues," with committees on education, farm progress, cooperative marketing, health organization and social life, and an executive committee which in consultation with the State bureau determines upon the line of work for each year and the special problems upon which attention is to be concentrated.

Two important acts of the 1917 session of the legislature gave a decided impetus to the movement for community organization. An article in the *Community Center* for September, 1917, comments on one of these acts as follows:

By this act [an "act to provide for the incorporation of rural communities," 1917, ch. 128], the people of each rural neighborhood—a common school district or uniting group of districts—* * * may secure the powers and advantages of incorporation usually reserved for cities and villages—the right to enact ordinances [through a legally provided-for community assembly] and assure common contribution to pay for community improvements through the levying of taxes; they may nominate for the Governor's appointment a community judge or magistrate; and * * * may, through their duly chosen executive committee of "directors," take any and all necessary steps looking to a system of * * * cooperative community marketing.

A committee appointed by a conference which was called by Governor Bickett to prepare a statement concerning the purpose of this law concludes its report with these words:

"It will make the school and the schoolhouse the center and rallying point for all activities, agencies, and plans for the improvement of community life and the advancement of community progress and prosperity.

"It is applied democracy, and in accordance with the traditions and genius of our race. * * *

"In short, it makes progress legal and binding when favored by a majority of the community instead of its being probably only an ineffectual, effervescent mass-sentiment."

Through an "act to improve the social and educational conditions of rural communities"¹ it is the duty of the State superintendent of public instruction "to provide for a series of rural entertainments, varying in number and cost and consisting of moving pictures selected for their entertaining and educational value, which entertainments may be given in the rural schoolhouses of the State as herein provided."

HOME-COUNTY STUDY CLUBS OF UNIVERSITY OF NORTH CAROLINA.

An interesting organization of the State university—the North Carolina Club—is composed of university students and faculty members, "bent on accurate, intimate acquaintance with the Mother State." The society has entered upon its third year of study of economic and social problems in North Carolina, "her resources, advantages, opportunities, and achievements; the production and retention of wealth and the conversion of wealth into welfare and well-being; market and credits; organization and cooperative enterprise; schools and colleges, churches and Sunday schools; public health and sanitation; problems of urban and rural life: * * *."² Affiliated with the North Carolina Club are various county clubs of students, exploring the economic and social problems of their home counties. Nearly 70 "home-county" studies have been made by these clubs and prepared for publication in the home papers. In some instances the county officials are preparing to issue these county studies in pamphlet form for textbook use by students in the high schools, by teachers in the county institutes, and so forth. The subjects covered in the study of each county are as follows:

(1) The Historical Background, (2) Timber Resources, (3) Mineral Resources, (4) Water-Power Resources, (5) Industries and Opportunities, (6) Facts About the Folks, (7) Facts About Wealth and Taxation, (8) Facts About the Schools, (9) Facts About Farm Conditions, (10) Facts About Farm Practices, (11) Facts About Food and Feed Production, (12) The Local Market Problem, (13) Where the County Leads, (14) Where the County Lags, and (15) The Way Out.³

Such a searching study of the home State must prove of great value in the development of a trained and intelligent leadership which is one of the most essential factors in the progress of any State.

LAWS RELATING TO CHILD LABOR.³

Up to September 1, 1917, when the Federal child labor law went into effect, the employment of children was regulated only by the State law, which is meager and ineffective. The State labor law permits the employment of children 12 years of age or over in manu-

¹ Acts of 1917, ch. 186.

² University of North Carolina Record, No. 140, pp. 7, 8.

³ The Federal child labor law was in effect at the time of the study, but it has since been declared unconstitutional by a decision of the Supreme Court of the United States (June 3, 1918).

facturing establishments, providing that no child between the ages of 12 and 13 shall be employed except in an apprenticeship capacity, and then only after having attended school 4 months in the preceding 12 months.¹ The State law also prohibits night work in any mill, factory, or manufacturing establishment—that is, between the hours of 9 p. m. and 6 a. m.—for children under 16 years of age.² By the passage of the Federal child labor act,³ in effect September 1, 1917, the age at which children are permitted to work in manufacturing establishments, mills, factories, workshops, or canneries shipping in interstate or foreign commerce is fixed at 14 years, with the added provision that no child under 16 shall work more than 8 hours a day, 6 days a week, or between 7 p. m. and 6 a. m., in such establishments.

Prohibition of employment in agricultural pursuits is not specified in either the State or Federal law.

LAWS RELATING TO SCHOOL ATTENDANCE.

The school law of North Carolina makes definite provision for its enforcement; under the general supervision of the State superintendent of public instruction it charges the county board of education with the appointment of attendance officers, one to each township,⁴ and provides that the county board, together with the county superintendent, may make rules governing school attendance.⁵ Yet, as a matter of fact, in the counties of the survey at least, the law is very poorly enforced, due largely no doubt to a discouraging indifference on the part of the public, and to the lack of a system of special truancy officers. According to the census figures, North Carolina's rank in school attendance, as compared with the other States, is thirty-third.⁶ In view of the fact that on account of the Federal child labor law⁷ many children under 14 are released from the mills, a rigid enforcement of the compulsory-attendance law would seem particularly desirable.

CHILD-CARING INSTITUTIONS AND AGENCIES.

FACILITIES FOR DEALING WITH JUVENILE OFFENDERS.

The State juvenile court law⁸ embodies the modern conception of the delinquent child as a ward of the State in need of guidance rather than as an offender to whom punishment should be meted. The

¹ Pells Revisal of 1908, Supplement 1913, ch. 45 A, sec. 1981 b.

² P. R., 1908, Supp. 1913, ch. 45 A, sec. 1981 ee (2).

³ 39 U. S. Stat. L., p. 675 (act of Sept. 1, 1916).

⁴ P. R., 1908, Supp. 1913, secs. 4092a (5) to 4092a (6), as amended by 1917, ch. 208, sec. 2.

⁵ P. R., 1908, Supp. 1913, sec. 4092a (11), as amended by 1917, ch. 208, sec. 1.

⁶ Thirteenth Census of the United States, 1910. Vol. I, pp. 1118-1127.

⁷ The Federal child labor law was in effect at the time of the study, but it has since been declared unconstitutional by a decision of the Supreme Court of the United States (June 3, 1918).

⁸ Acts of 1915, ch. 222.

modern principle of probation is an important feature of the law—permitting the court to suspend sentence and place the child on probation for a specified period. The court has jurisdiction over adults contributing to the child's delinquency, juvenile offenders are tried before the county courts, and the law directs the court to hold separate trials for children as far as practicable. No child 14 years of age or under can be committed by the courts to any jail or prison inclosure where the child will be the companion of older and more hardened criminals, except where the charge is for a capital or other felony, or where the child is a known incorrigible or habitual offender; the child may be placed in a detention home or in the temporary custody of a responsible person pending the disposal of his case by the court.

Although most of the essentials of good juvenile court legislation are included in the law, it is lacking in certain respects: Separate sessions of the court for the trial of juvenile offenders are not obligatory; children 14 years or younger, if known as "incorrigible" or "habitual offenders," may be confined in jail or prison, where they are subject to the contaminating influences of adult offenders; and the probation system, except in a few of the larger cities which maintain paid probation officers, is dependent upon volunteer service.

The Stonewall Jackson Training School near Concord provides institutional restrictions and training for a limited number of delinquent boys—97 were enrolled at the time of this study—but, according to the annual report for 1916 of the board of public charities, it is handicapped by insufficient equipment and needs to be materially enlarged.

The 1917 legislature has provided for the issuing of bonds to erect an institution for delinquent girls,¹ which has been a most vital and urgent need. At the time of the study, throughout the State, no separate institution was available for this class of offenders. When the judge of a North Carolina court pronounces a girl, however young, guilty of a crime, he has no alternative but to place her in the State penitentiary. In 1916 alone there were received at the State prison, with no provisions at that time for a separation of young from older prisoners, 48 children under 20, 8 from 10 to 15, and 40 from 15 to 20 years of age.² Recent legislation³ for the purpose of regulating the "treatment, handling, and work of prisoners" provides that "the races shall be kept separate, and youthful convicts from old and hardened criminals in sleeping quarters."

¹ Acts of 1917, chs. 255, 265.

² Annual Report of the Board of Public Charities of North Carolina, 1916, p. 30.

³ Acts of 1917, ch. 286, sec. 24.

INSTITUTIONS FOR DEFECTIVE CHILDREN.¹

A State school for the feeble-minded, the Caswell Training School at Kinston, affords facilities for institutional care and industrial training for 200 children, and had an enrollment of 181 on November 30, 1916.² Fifteen children, reported feeble-minded, were inmates of county almshouses³—obviously unsuitable institutions for their care, since they are unequipped for the special treatment and training necessary for the mentally defective. No suitable State provision has been made for feeble-minded negro children, who are committed to the county almshouses.

Seventeen children under 16—both boys and girls—were patients at the epileptic colony of the State hospital for the insane at Raleigh.⁴

The North Carolina school for the white deaf, located at Morganton, had a capacity of 300 and an enrollment of 281.⁵ State schools for the blind—white and negro—at Raleigh had an enrollment of 286 white boys and girls and 69 negroes.⁶ The negro school also has the care of 105 deaf negro children.

Along with a plea for an industrial school for delinquent girls and for an increase in the capacity of the Jackson Training School for Boys, the board of public charities in its report for 1916 mentions the need for a hospital for crippled children also—a hospital school where “the children are taught during the months when under treatment. * * * Many States have opened such institutions, and the wonderful cures have demonstrated that they are eminently worth while.”⁷ The first step toward an orthopedic hospital was taken by the legislature of 1917,⁸ which appropriated \$20,000 for this purpose, provided the amount can be duplicated from sources other than the State. A committee appointed by the governor has selected a site at Gastonia and is empowered to proceed when the necessary funds shall have been raised.

PROVISIONS FOR HOMELESS AND DEPENDENT CHILDREN.

The State orphanage for white children at Oxford has an enrollment of 375, and the orphanage for colored children, also at Oxford, 155.⁹ Several private orphanages scattered throughout the State are caring for 1,690 children; also a children's home society at Greensboro, the only child-placing society in the State, has under its super-

¹ The figures given in this section are as of Nov. 30, 1916.

² Annual Report of the Board of Public Charities of North Carolina, 1916, p. 22.

³ *Ibid.*, p. 74.

⁴ *Ibid.*, p. 19.

⁵ *Ibid.*, p. 26.

⁶ *Ibid.*, pp. 24, 25.

⁷ *Ibid.*, p. 7.

⁸ Acts of 1917, ch. 199.

⁹ Annual Report of the Board of Public Charities of North Carolina, 1916, pp. 31, 33.

vision 442 children who have been placed in private homes.¹ A number of dependent children, 37 in 1916, were cared for temporarily in the county homes or "almshouses" ² designed for adults, totally unfitted, according to modern standards, for the special problems of child care. The board of public charities urges the county commissioners to provide otherwise for the children as soon as possible.

STATE BOARD OF CHARITIES AND PUBLIC WELFARE.

Since March, 1917, a new "State Board of Charities and Public Welfare," taking the place of the old "Board of Public Charities," has been given the duty to "study and promote the welfare of the dependent and delinquent child and to provide either directly or through a bureau of the board for the placing and supervision of dependent, delinquent, and defective children," and to "inspect and make report on private orphanages, institutions, and persons receiving or placing children." ³ This board hopes eventually to organize county boards of public welfare throughout the State, with a locally paid county commissioner of public welfare in every county.

¹ Annual Report of the Board of Public Charities of North Carolina, 1916, p. 38.

² Ibid., p. 74.

³ Acts of 1917, ch. 170.

SCHEDULE USED IN VISITING FAMILIES DURING SURVEY.

[Page 1.]

U. S. DEPARTMENT OF LABOR.

CHILDREN'S BUREAU.

OUTLINE FOR STUDY OF CHILD WELFARE IN RURAL COMMUNITIES.

[Page 2.]

FATHER.		MOTHER.		BABY.		ADDRESS.					
S. No.	B. C. No.	D. C. No.	Township.	COUNTY.	STATE.						
BABY—1. M. F. 2. L. I. 3. L. B., S. B. 4. At one year: Alive, Dead. 5. Date of birth 6. Date of death						23. Mother's occupations	Industries	Extent	Ages.		
7. Feeding:											
1 2 3 4 5 6 7 8 9 10 11 12											
(a) Breast only.....											
(b) Breast and other.....											
(c) No breast.....											
8. Specify (b) and (c).....						FATHER—24. Occupation.	Industry.	E. O. W.			
MOTHER—8. Marriage ages.....duration.....years.											
9. Pregnancies.						25. Illness.....					
No.	Sex.	Mother's age.	Child's present age.	At'd't at birth.	Period.	Cause of death	Age at death	26. Physical history of children.			
1								1			
2								2			
3								3			
4								4			
5								5			
6								6			
10. Before conf.: Saw phy'n, mwf., how often....Ur. exam., how often....						27. Home remedies.....					
11. After: No. visits.... 12. Drops in baby's eyes.....											
13. Cord, how dressed.....											
14. Instruction in inf. care.....											
15. Nursing care in conf.: (a) Kind.....						28. Distance from phy'n.....					
(b) Duration..... 16. How long in bed.....						29. From telephone.....					
17. Usual help with housework.....						30. Distance from school.....					
18. Extra help in confinement.....						31. Education of living children.....					
19: Usual duties.	Ceased.	Re-sumed.	Usual duties.	Ceased.	Re-sumed.	No.	Ages at school.	Total months' schooling.	Grade completed.	Can read and write	Reason for leaving.
(a) Cooking ..			(f) Milking.....								
(b) Cleaning ..			(g) Churning.....								
(c) Washing ..			(h) Chickens.....								
(d) Ironing ..			(i) Garden.....								
(e) Bulk family sewing.			(j) Farm.....								
20. Household conveniences.....						32.....	Native white	Native black	Other	Can read	Read and write
21. Illness.....						Mother				Y.N.	Y.N.
22. Compl. of former pregnancies.....						Father				Y.N.	Y.N.

These columns are reserved for office use.

[illegible][illegible]

Symbols: D=dwelling. P=privy. W=well.
Sp=spring. St.=stable. Hp=hog pen.

[Page 4.]

50. Home economics: [Diet and clothing; income—(cash and other); indebtedness, other than mortgage; store credits and methods of purchasing; expenditures for stock and farm equipment; for hired help; method of crop disposal; distance from market, etc.]

51. Social life, recreation, use of leisure time, etc.: Publications taken.	Distance from nearest town. Road.	R. F. D.	Y. N.
[Give for each member of family: Membership in farm or civic association, club, lodge, grange, etc.; attendance at Farmers' Institutes; frequency of visits to town, participation in social events, etc.; also attitude toward farm life, desire to go to mill town or city, etc.]			

Notes:

Informant.

Agent.

Date of visit.

MIDWIFE SCHEDULE.

U. S. DEPARTMENT OF LABOR,

CHILDREN'S BUREAU.

OUTLINE FOR INTERVIEW WITH MIDWIVES IN A RURAL DISTRICT.

1. Name and address 2. Col., white
3. No. births attended in 1915 No. with M. D. 4. Patients wh., col., both
- SERVICES DURING CONFINEMENT: 5. How is patient prepared
6. How does midwife prepare herself
7. Antiseptics used
8. No. exams. usually made during labor 9. 2d and 3d stages of labor, how treated.....
10. Treatment of cord; of infected cord
11. No. cases infected cord; of umbilical hernia
12. Treatment of baby's eyes..... 13. No. cases of infected eyes
14. Remains how long after birth No. calls after Patient discharged when
- What exam. made previous to discharge
15. What advice given on infant care
16. What services performed other than obstetrical: Nursing, Y. N. Housework, Y. N.
- ABNORMAL CASES: 17. No. treated in 1915 No. lacerations No. repaired by mwf.
- Other abnormal cases: Specify.....
18. Use of instruments; of anaesthetics
19. Bag: Equipment and condition
20. Under what circumstances does mwf. call phyn.
- Names of phyns. called
21. No. stillbirths No. infant deaths Causes
22. Mothers' deaths: No. Causes
- No. cases of childbed fever
- SERVICES DURING PREGNANCY: 23. Sees patient how often, and in what mos.
24. Does mwf. as a rule make phys. exam.: Y. N. Specify no. and kind
- Urine exam.: Y. N. and in what mos.
25. Prenatal care: Advice given mothers
- TRAINING OF MIDWIFE: 26. Where 27. Name school or phyn. 28. Diploma: Y. N.
29. Mos. attended 30. Lectures per week 31. No. births attended during training
32. Genl. education Can read and write: Y. N.
33. Yrs. practiced: Total; in township studied 34. Usual charge for conf. \$.....
35. Does she register births: Y. N. How long after
36. License No.
37. Condition of house; of person
38. Approximate age
- Enter notes and remarks

SCHOOL-SURVEY SCHEDULE.

U. S. DEPARTMENT OF LABOR,
CHILDREN'S BUREAU.
WASHINGTON.

SCHOOL SURVEY.

1. Name of school
2. White or negro.....
3. Term
4. Graded or ungraded.....
5. Highest class.....
6. Teachers, number.....
7. Salary.....
8. Enrollment, total.....
- Boys
- Girls

Attendance.	Total.	Boys.	Girls.
9. Average for year.....			
10. Average for November.....			
11. Average for March.....			

School building:

12. Material
13. Finished, outside inside
14. No. rooms
15. Blinds or shutters at windows
16. Method of heating
17. Provision for coats, etc
18. General condition
19. Equipment
- Sanitation:
20. Number of toilets, for boys girls
21. Distance apart
22. Drinking water, Dg. W., Dr. W., Sp
23. Drinking cup, individual, common
- Surroundings:
24. Any attempt to beautify grounds with flowers, shrubbery, or trees
25. Playground, Yes, No.

School activities:

26. Library
27. School clubs (Audubon Soc., etc.)
28. Athletics
29. Industrial work
30. County commencement, No. attending
31. Exhibits and prizes
32. School entertainments
- The school and the community:
33. Community gatherings held at the school, meetings of Community Club, Farmers' Institutes, etc.
34. Money raised privately or by school entertainments last year and how used.....
35. No. of visits to parents
36. No. parents who visit school ..

Notes:

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U.S. Children's Bureau

Rural children in selected
counties of North
Carolina

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